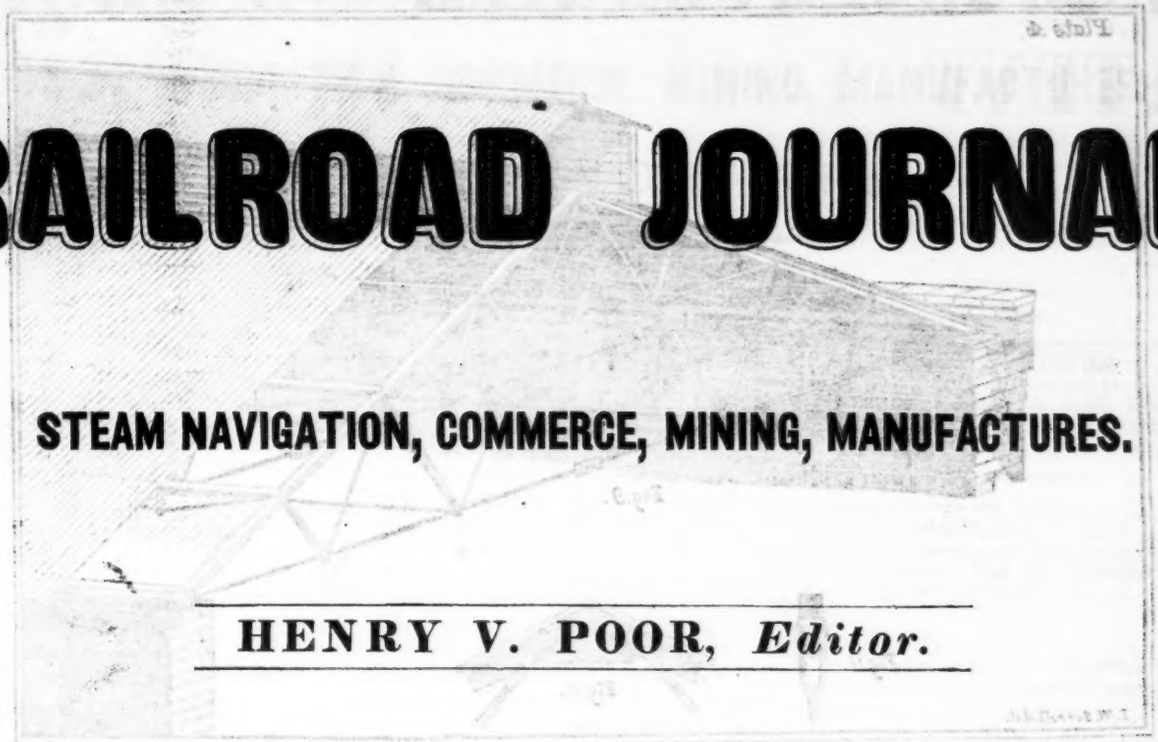
AMERICAN



RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

SATURDAY, SEPTEMBER 13, 1856.

Second Quarto Series, Vol. XII., No. 37.---Whole No. 1,065, Vol. XXIX.

ESTABLISHED IN 1831.

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ROOFING.

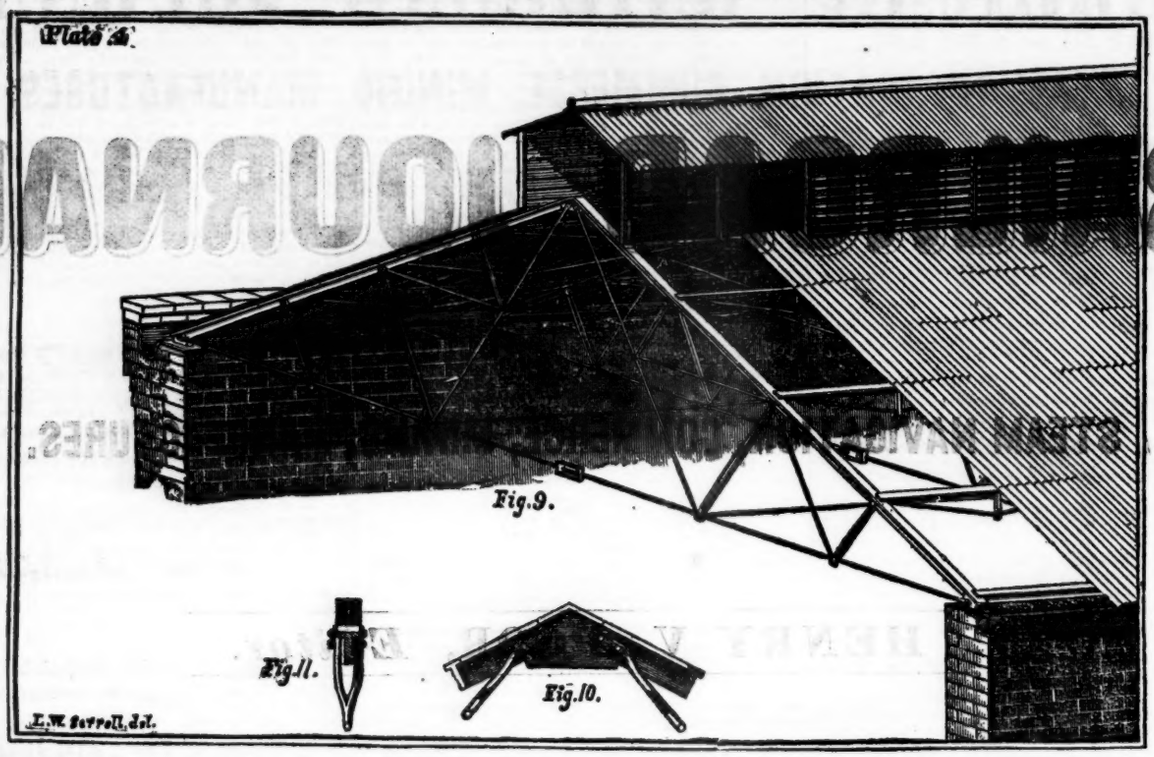

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Fig. 6.

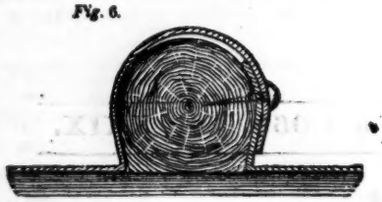

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Fig. 7.

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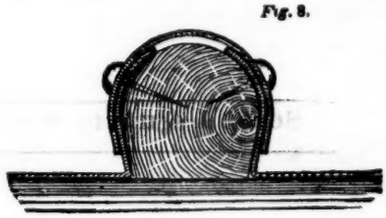
Fig. 8.



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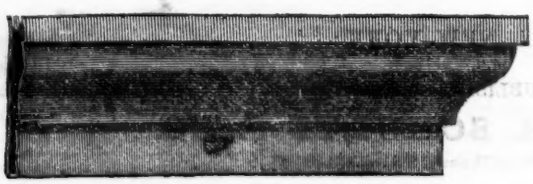

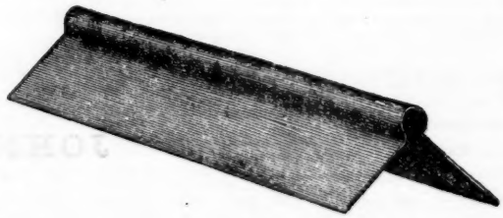

MARSHALL LEFFERTS & BROTHER,

Corner of Broad and Beaver sts., NEW YORK.

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PRINCIPAL CONTENTS.

Quincy and Palmyra Railroad.... 577
Iron of Lake Superior.... 578
Improvement in Steam Boilers.... 578
Opening of the Grand Trunk Railway.... 578
Finances of Maryland.... 579
American Association for the Advancement of Science.... 579
Railroad Statistics of the United States.... 584
Accident on the New York Central R. R..587, 584
Insurance upon Railroad Property.... 584
Railroad Earnings.... 585

American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

New York, Saturday, September 13, 1856.

Quincy and Palmyra Railroad.

The articles of association by which this company were organized under the General Railroad Law of Missouri, were filed in the office of the Secretary of State on the 8th of March last.

At a meeting of the directors held at Palmyra on the 15th of April, the Company was organized by the election of Samuel Holmes, Esq., as President.

Col. Wm. H. Sidell, late of the Northern Cross Railroad, was appointed Chief Engineer.

At a subsequent meeting of the board held on the 5th of July, the report of the engineer was presented and accepted, from which we learn that the road proposed to be constructed by the company from the west bank of the Mississippi opposite Quincy, Ill., to Palmyra, Mo., is for the purpose of getting a direct railroad connection with the Hannibal and St. Joseph Railroad, which passes through Palmyra, and thence west to St. Joseph on the western border of the State. The peculiar importance of this connection comes from the fact that Quincy is now the Mississippi terminus of a finished line of roads through Chicago from the Atlantic cities, and will soon be the terminus of other lines through Toledo, along the southern shore of Lake Erie, as also of others through the middle of all the States east of Illinois. To effect these last connections but 30 miles of road is required, and measures to construct these are in progress. From Quincy to Palmyra is only about 12¾ miles, and has no peculiar difficulties of construction to give a good and secure road, with grades so easy as to be within the rulling grades of the Hannibal and St. Joseph Railroad, with which it is to connect. After a thorough examination of the route, the following line was laid: Beginning at the Ferry-house opposite Quincy, a ridge called Hickory Ridge was found, which ran in the right direction; this was nearly three miles long with but two or three depressions. Beyond its extremity the Fabius river was crossed, below its fork, rendering but one bridge necessary, having a span of 150 feet. Beyond this river is an open prairie bottom on which the line continues until it reaches North river which is crossed by a bridge ef 120 feet span, at a height just sufficient to pass the water; thence it follows up the slope of North river valley by easy ascending grades, of which the maximum is 42 feet to the mile, all the way to its junction with the Hannibal and St. Joseph road, just west of Palmyra, excepting that for the purpose of getting a small piece of level ground for a depot, 2,000 feet of 53 ft. grade is interposed, which is the same grade as that of the Hannibal road at the place where the junction is made, and in fact the ruling grade of that road, and which it joins on a course continuous with its general direction out from Palmyra to the west, so that to the eye it seems the main line pursuing its direct course to the west, straight from Quincy.

The route selected, via North River Valley, is 12.77 miles long, joins the Hannibal road three quarters of a mile west of its depot, and beyond the great curve on that road, maintains the general direction of that part of the road west of Palmyra, avoids interference with city regulations and town property, and has no steeper grade than 42 feet to the mile, except as before stated.

The grade has a descent from Palmyra east toward the Mississippi, the total descent to the bottom land being 181 feet; across the bottom land the grade is level, except a very gentle rise and fall to cross the bridges. The sharpest curve on the line has a radius of 1,200 feet.

The total cost of building the road on the route selected is estimated as follows:

Grading, masonry and bridging	$155,160
Track, including 1¼ mile of siding....	140,000
All other expenses, including two depots, land damages, office and legal expenses, engineering, &c....	48,500
	$343,660

No estimate is made for rolling stock, as arrangements may possibly be made with connecting roads by which none may be needed.

The distance to Quincy from Palmyra is 2½ miles less than to Hannibal.

This road is more than a mere local work to connect two places; it is a link in the grand chain connecting the east and the far west. It joins together other works nearly or quite complete, extending far away in both directions, and if built will benefit these works, let them extend as far as they may. It has not only its own proper business, but also all that may be brought over it from connecting roads. The Quincy and Palmyra road is in fact a continuation of the Northern Cross road, running from Quincy, its western terminus, to Galesburg, where it intersects the Chicago, Burlington and Quincy road; and thence by various roads leading out of Chicago to New York and Boston. Next by way of Springfield and Toledo and the south shore of Lake Erie, to the same Atlantic cities; also with chains running through all the State capitals, Indianapolis, Columbus and Harrisburg to Philadelphia and Baltimore, and across all these east and west lines, the natural lines of trade, innumerable other roads running north and south, serve as feeders. On the west is the Hannibal and St. Joseph road, which crosses the whole width of Missouri, 200 miles, to its western boundary at the Missouri river. These roads are all either actually built, or what little remains unfinished, is in such a state of forwardness, as to render their completion prior to that of the Quincy and Palmyra certain. Quincy is next to Chicago the most considerable city in Illinois. It is the most western city in that State, and has a large and unusually active population; it has manufacturies, founderies, machine shops, etc., which supply all the surrounding country, while its packing business and its dealings in grain, pro-

visions and cattle are very heavy; it has the best line of boats on the Upper Mississippi, and its river commerce is superior to that of any place north of St. Louis.

The following are the Directors named in the articles of association: Wm. P. D. Claybrook, Ed. McCabe, Lloyd P. Hallack, James W. Kniesly, Henry S. Lipscomb, Thomas Redmond, Samuel Holmes, Nehemiah Bushnell, Sylvester Thayer, Amos Green, Newton Flagg, James M. Pitman, and Hiram Rogers.

Iron of Lake Superior.

The superiority of Lake Superior Iron over that obtained from any other locality has been often proved in our columns, to our readers, but our attention has again been called to it by the article in another column from the pen of one of our fellow townsmen, whose scientific knowledge has contributed not a little to the interest of our columns, and the enlightenment of our readers. The article in question speaks for itself and we will now only refer to tenacity and strength of our iron as compared with that of other localities.—The following results obtained by Prof. W. B. Johnson, will show the exact position of the different metals:

			Strength in lbs. per sq. in.
Iron f'm	Salisbury, Ct.,	by means of 40 trials,	58,000
do	Sweden,	do 4 "	58,084
do	Centre Co. Pa.,	do 15 "	58,400
do	Lancaster Co. Pa.	do 2 "	58,061
do	McIntire, N. Y.	do 4 "	58,912
do	Engl'd, [cab bolt]	do 5 "	59,105
do	Russia,	do 5 "	76,069
do	Carp River, Lake Superior, determined by Maj. Wade,	do	89,582

Thus it will be seen that the Lake Superior iron is about one-third better than all other kinds but one, and that one kind is far inferior. There is no doubt but that when once the most perfect mode of manufacturing it is attained by experience it will prove better than the above estimate, but even should it not, the present position which it occupies is a sufficient guarantee of its excellence.

In speaking of this the Buffalo *Express* says some of this iron was recently tested in Shepherd's Foundry in that city, with a view to try its tenacity. A piece of rolled iron, of the thickness of ones wrist, was subjected to various processes, and, after bending it across an anvil, twisting it in opposite directions, and in fact employing upon it all possible force and skill, the experimenters were compelled to acknowledge that they never before had known any iron capable of such stubborn resistence to breaking forces. The fracture of the pig metal glistens like steel, and the fibre of the rolled bars is tougher than that of any other iron known to the trade.

Of the different qualities found here it is not necessary to speak, as it varies in the same mines, yet it can be reduced to about the same average in nearly all of them. We learn on good authority that the Eureka ore, which has generally been considered of inferior quality, makes the best iron manufactured at the Wyandotte Mills. And that it improves the other ores materially when mixed with them. The increased demand for the Jackson and Cleveland Mountain ores, is sufficient ground for the assumption that they are the best to be obtained without the aid of the comparison given above, but with the addition of scientific tests there is no longer room for doubt. It has frequently been placed in the most trying places, and subjected to the severest tests, but we have yet to learn that it has been found wanting. A chemical analysis of the ores of this region make them yield about seventy per cent., though in many instances they will far exceed that, and of the quality we need no further evidence than that heretofore given in our columns.

Important Improvement in Steam Boilers.

We have great pleasure in stating that our enterprising townsmen, Messrs. Shortridge, Howell and Jessop, of the Hartford steel works, have just perfected an improvement in the manufacture of steam boilers which supplies several important *desiderata*. The novelty, the credit of which, we believe is due to Mr. Howell, consists, briefly, in the substitution of steel in the place of iron. To the general reader this change of material implies little or no merit, but the practical man will perceive at a glance the true value of the achievement. Iron for boilers is open to several objections. It is not the best conductor of heat; it does not afford the requisite strength; it is liable to internal as well as superficial oxidization. In all these respects steel is much superior, and would doubtless have been preferred for boilers long ago but for the difficulty of working it because of its shortness of fibre and consequent brittleness.—These defects the introducers of the steel boiler have overcome by a careful removal of the silicas which constitute the impurities of the metal, and by a process of annealing after the metal has been rolled into form, the result being a metal which is not at all inferior to copper as a conductor of heat, and tougher than the most malleable iron, the proof being that it will bear bending into form when cold. Within the last few days we have seen a large boiler that has been made of this purified and finely tempered steel, and a close inspection of the angular parts affords the most satisfactory proof of its toughness ond ductility. On account of the great strength of the metal—being twice the strength of iron of the same thickness—the plates are of course much thinner than those of an ordinary boiler, and being one homogeneous mass, it is greatly superior to plates of iron, which are laminated substances, and as it is impossible, by the most careful process of hammering and rolling, to effect a perfect welding of the layers in every part, the water or steam penetrates between them wherever the least flaw exists. Thereupon oxidization ensues, and the substance being thus reduced in that particular part, the result is the same as if the boiler were uniformly impaired, inasmuch as the weakest part is the measure of the strength of the entire vessel. Another advantage afforded by this peculiarly prepared steel is, that the banishment of the silicas renders it a better conductor of heat. Hence a great economy of fuel. And this increased capability of generating steam involves no corresponding danger of explosion, ample compensation being afforded by the great strength of the steel. Thus a boiler of given size will yield additional steam with a saving of fuel. This economization of bulk and weight must prove advantageous when the boiler has to be conveyed a distance from the manufactory, and incalculably valuable in marine engines intended for long voyages, as it will increase the stowage space as well as diminish the ponderosity, while the concurrent saving of fuel will in certain voyages supersede the necessity of taking in supplies at a coal station whither the material has been conveyed at an enormous cost. It might be supposed that steel was too expensive a material to be used for the manufacture of boilers; but the fact is that, considering the saving effected in the thickness of the plates, the cost exceeds in an inappreciably small degree that of the best Low-moor iron. This improvement in the manufacture of boilers is accompanied by an important advantage in the application of steel for making tubes for multitubular boilers, which are immensely superior to iron tubes, and as conductors of heat fully equal to copper, at a considerable reduction of cost. The new boiler, to which reference is made above, will shortly be brought into operation in the establishment of an enterprising manufacturer in London, to whose order it has been made, and we trust we shall be enabled to report an entirely satisfactory result. The manufacturing community is directly, and in no small degree, interested in the issue, but Sheffield, as the emporium of the steel trade, is especially so, as the use of steel for the manufacture of boilers, should it become general, will cause an immediate expansion of the leading branch of our staple trade to the extent of which experience presents no parallel.

The new properties which, after much research, Mr. Howell has succeeded in imparting to steel will doubtless make it available for many new purposes. We hear, for example, of its being introduced into shipbuilding in a variety of ways.—A ship "yard"—the enormous beam placed horizontally athwart the mast—is made at great expense, of numerous pieces joined together, and its weight is so great—not unfrequently amounting three tons—that from its high altitude it necessarily retards the progress of the vessel, by increasing its unsteadiness. By the substitution of steel for wood the weight will be reduced from half to two-thirds, and in respect of strength, there will be a gain rather than a loss. Mr. Howell has protected himself by taking out a patent for the invention, and we believe that the shipping interest will shortly have an opportunity of seeing its merits demonstrated by actual experiment.—*Sheffield (Eng.) Times.*

Opening of the Grand Trunk Railway.

The expectation is that, on the 1st October, the Grand Trunk Railway will be completed from St. Mary's to Portland. The Victoria Bridge will, it is true, still remain uncompleted and the Western extension have to be made. But as the river is passable at Montreal there will be no break in the line from St. Mary's to the seaboard. Already there are symptoms that the completion of this great national work will change the direction of commerce and travel between the seaboard and the great West. In New York fears of this result are entertained; and some of the journalists of that city write as viciously respecting this great national work as the most slavish advocate of the Great Western in Canada. Already there are three lines of steamers which will bring passengers upon the Grand Trunk; and it is understood that the Great Eastern, by far the largest steamer ever built, is to make at least one experimental trip to Portland. The line of steamers subsidized by the Canadian Government has been eminently successful this season. Every one of them has supplied news to the whole continent of America in advance of its being brought by any other line. These steamers are invariably crowded with passengers; and as the experiment has been so eminently successful the line is becoming a favorite with the Canadians, who heretofore were the great support to the Cunard line. This latter line is not so managed as to make it very attractive to the public; and the mishaps which have befallen the Collins' steamers prevent that line from being preferred when there is as much choice as now exists. Two steamers have been lost—the Arctic and the Pacific—the Atlantic was once out thirty-six days and made land with a broken shaft; besides innumerable derangements of machinery, causing delays of several hours on the Atlantic and panic among the passengers. A strong national partiality added to the excellent management of the *cuisine*, causes Americans to stick by this line; but it is no unfrequent thing to meet with Americans who admit that this is not the most desirable line on the ground of safety. What the new lines which are to come to Montreal and Portland will accomplish, remains to be tested.

The shortest route, in point of time, is the one that will ultimately be adopted. The value of a couple of days to commercial men may be and often is very great; and those who are not stinted for time never want motives for desiring a quick ocean passage. Those who travel for amusement or instruction generally regard the ocean trip as the great drawback of the journey, and are anxious that it should be as short as possible. Those who have never yet made a sea voyage are often deterred from doing so by the thoughts of a long passage. In point of speed, our Canadian steamers are a match for their rivals; and should the Great Eastern be permanently put on the Portland route, she will, unless she greatly disappoint all

calculations regarding her, distance very far all competitors. However much room there may be for speculation as to her success, it is not an unreasonable conclusion that she will succeed so far as to shorten the passage at least two days from what it is at present. And in that case there is no fear that, large as she is, she will find a full complement of passengers every trip. Persons whose destination was New York would prefer to take passage in her, because by doing so they would sooner reach their destination. Should the Great Eastern succeed she will of course not long remain the solitary leviathan of the deep. Others will soon rival her in size, and perchance eclipse her even in that respect. But even so; New York will be a loser by this extraordinary development of ocean steamers. There is not water enough in the New York Harbor to admit the entrance of such a vessel as the Great Eastern; and if steamers of her size are hereafter to do the business, they must go to Portland or Quebec. This is thoroughly understood in the Empire City; and if little or nothing is said about it publicly, it is not therefore the less secretly lamented. Here is an element in future success of the Grand Trunk Railroad. If Portland is hereafter to become the great connecting point with Europe, a large proportion of the passengers—all those westward bound—will go through Canada on our great national railway. The Canadian steamers, which, besides their other elements of success, have cheapness to recommend them, will be also feeders to our great national line. On the whole there is every reason to expect that, in a few years, a complete revolution in the communications between Europe and the Western States will take place.—*Toronto Leader.*

State Finances of Maryland.

Loan to Chesapeake Canal		$7,194,222
To Baltimore and Ohio Railroad		4,116,043
To Susquehanna Canal		1,000,000
To Susquehanna Railroad		2,282,045
Various I. Improvement Loan		590,599
Total Debt of State		$15,132,909
Of which held by Sinking Fund		3,426,750
Total outstanding		$11,706,159
In 6 per cents	$3,015,220	
Sterling 5 per cents	8,272,258	
4½ per cents	77,681	
3 per cents	341,000	11,706,159
The State holds:		
Stock in Baltimore & Ohio Railroad	$4,182,691	
In Baltimore Banks	468,406	
Bonds of Susqueh'na Canal	1,192,500	
Mortgage Susqueh'na Road	1,560,000	
Treasur.'s claims on Receiv. Officers	672,143	
Miscellaneous Stocks	99,538	
Total productive Stocks		8,115,278
Balance of Debt on State taxables		$3,590,881
The State has claim:		
On Chesapeake Canal	$7,886,573	
Stock in same	5,000,000	
Various Stocks	756,073	
Total unproductive		$13,642,646
Taxables—Baltimore City and County	$115,157,275	
Interior Counties	128,776,171	
Total Taxables of State		$243,933,446
Income of Treasury in 1855		1,200,762
Interest, S. Fund, Charities, &c.		985,064
Carried to balance in Treasury		$214,798
Income of S. Fund from Interest		$164,408
Contributed from Treasury		98,617
Total		$263,025

The State of Maryland affords a remarkable example of rapid and highly honorable recovery from the embarrassments which overtook so many of the States soon after the general revulsion of 1837. Her financial position in 1842 appeared to be almost hopeless, but good faith and prompt submission to direct taxation in her people soon replaced the Public Debt upon its most creditable basis.

American Association for the Advancement of Science.

Below we give a paper read by Prof. Guyot, upthe great Appalachian range of mountains of the United States.

Prof. Guyot commenced by saying that for the last few years he had been endeavoring to form an idea of the general structure of the Appalachian system of mountains; and, although he had been interrupted for two or three years, he had tried this year to complete his view by the examination of the southern or higher portion of the system.—He had previously examined the White mountains of New Hampshire with a great deal of care, and made a partial exploration of the high peaks of Essex county, New York, and therefore had been more desirous of making observations on the southern portion. Before speaking of those explorations he begged leave to make a few remarks on the general structure of the whole system.—The great Appalachian range is, as is well known, composed of a system of parallel ranges, somewhat resembling the folds of a garment. But this comparison may lead to views of the structure of the system which will need modification. On the western side, the system does not consist of single chains, but of a high table land, elevated in some parts about 2,500 feet above the sea, being from 50 to 100 miles in breadth. This is the case in New York State, where between Lake Champlain and Lake Ontario there is a plateau of 1,500 feet above tide water, on which are placed high points, such as Tahawas, the high peak of Essex. We find that in Virginia, through which he had just passed, the bottom of the valley is about 1,700 ft. above the sea, behind the Alleghanies, and westerly from this, extends a plateau lying 2,000 feet above the sea. Thence on for a hundred miles west we find an elevation of from 1,500 to 2,000 feet, not a level plateau, but one rough with longitudinal ridges. It was the same thing in Tennessee, with the long plateau of the Cumberland mountains. So that wherever we make a cross-section of the Appalachian system, we should find in the general profile, first, a gentle slope from the Atlantic, then a sudden rise to the highest elevation, then a more gradual descent on a table land westward. Thus in New England the eastern foot of the mountain ranges is about 800 feet above the sea, the western, in New York, 1,500. In Pennsylvania the eastern foot of the range is elevated about 500 feet, the western 1,000 feet. Still further south we have the eastern foot 1,200 feet, and the western, about 2,500 feet above the sea. These are the general features of the profile. But we shall find that the beautiful law first pointed out by Prof. Rogers, is common to this and to the Jura mounts; that while the whole range is steeper to the east than to the west, the particular chains are just the reverse, and have their steepest slopes towards the west. He was the more desirous of mentioning this, because, when he had stated it on a former occasion for the Jura, he had been misunderstood. The middle region of the Appalachian system is, on an average, much the lowest portion of the whole—the peaks are lower, the table land lower, and the valleys lower; the highest points in Pennsylvania being little more than 2,000 feet. But, although low, it is here unbroken. The only clean cut through the whole system is, as was remarked by Prof. Henry, the great valley of the Mohawk, in which we attain at the highest point an elevation of only 400 feet. As we come north from Pennsylvania, all the elements increase. Instead of elevations of 2,000 ft., we have at the Catskill nearly 3,000, among the Adirondacks 5,000, and among the White mountains 6,000. And all the other great features—the hight of the valleys, and of the table lands—the general swell of the base increases in like proportion. As we go south, on the other hand, all the features in like manner become more grand. The high valleys in Virginia are over 1,000 feet above tide water, and in North Carolina is a tract from 100 to 150 miles in length, at an elevation of 2,000 feet. It is on this that the Black mountains rest. One of the marked features of the Appalachian system consists in a series of great central valleys running in the same direction as the whole range, as, for example, what is called the great valley in Virginia, and the valley of the Connecticut in the more northerly part of the chain. It is these valleys, in connection with the great swells of the land, that decide the courses of the rivers. But the whole system is curiously divided into two parts, a northern and a southern; one apparently twisted toward the east, the other toward the west; that is to say, all the streams in the northern part of the system take their rise upon the western plateau, and break through the eastern ridges on their way toward the sea; while in the southern portion the streams rise in the eastern plateau, and break through the western ridges on their way toward the Mississippi. The twist changes in Montgomery county, Virginia, at a place marked by no extraordinary features, but well defined by containing branches of the New river, called, nearer the Ohio, the Kenawha, and also the head waters of the Roanoke, which breaks through the Blue Ridge near the Peaks of Otter. The division lies between Christiansburg and Salem. North of this point the name Alleghany is given to the dividing ridge, or water shed. The dividing line south of this point is called the Blue Ridge. With those few preliminary remarks, he would now indicate the exact position of the Black mountains, and also of the White. They were both on the east, on the very border of the system, having the whole of the high plateau west of them. There is, it is true, a portion of the Blue Ridge running east of the Black mountains, as there is a range lying east of the White hills; but in both cases they are, as it were, additions on the east to the main central system. At the point where the Black mountains occur, the distance from the Blue Ridge to the Tennessee border mountains is from thirty to fifty miles. At this place the structure of the intervening mountains, also, is, like that of the White hills, different from that of the great Appalachian system. Instead of having the greater trend of the range, there are tranverse ranges reticulating the country into cross valleys, in which the rivers run at right angles to the usual trend of the mountains.

Now this structure is not found in any other parts of the Appalachian system. The lowest points of these cross-valleys are about 2,000 feet above the sea, as at Ashville, on the French Broad River, in Buncome County. The valley of the Toe River, at Burnsville, Yancey County, has an elevation of about 2,500 feet. Between these valleys a vast, anomalous mass of hills, consisting essentially of two ranges, one running from north to south about ten miles, the other starting from this southern point and running about ten miles to the northwest, and forming a vast horse-shoe, open to the north-west, and giving rise to Cane river. Although masked somewhat by other mountains about, they are well marked by that circumstance, which has given them the name of Black Mountains. The vegtation of their summits resembles somewhat that of Lake Superior. Instead of the oaks, chesnuts, and tulip poplars that make the other mountains green, the tops of these, from 5,300 or 5,500 feet upward, are clothed with a dense forest of the balsam fir. These mountains already attracted the attention of travelers in the last century. The Michaux, both father and son, traveled about them, and called the attention of the scientific world to the interesting field which they opened. They were also visited by Nuttall and Rafinesque. The first who has the honor of attempting measurements was Dr. E. Mitchell of Chapel Hill, in 1835. His first barometer was poor, but he obtained tolerable

good results, making the hight of the peak he visited 6,476 feet. In 1844 he found a still higher elevation, of 6,672 feet. Prof. Guyot mentioned that the Hon. Thomas Clingman of the House of Representatives, a great amateur in mountains, gave a very good description of the Black Mountains, and found a peak further north which he made 209 feet higher. All this uncertainty of measurements induced Prof. G. to go, provided with good barometers and assistants, to make more careful measurements. He would describe some of his processes, that the Association might know how far they could rely on his numerous results. One of the first objects in barometric measurements is to get rid of local variations by having two barometers, one kept stationary on a well-determined point. But it is usually difficult to find well-determined places sufficiently near.—In his measurements of the White mountains, when the stationary barometer was within ten or twenty miles of him, he found himself liable to an error of fifty feet in altitude. The second cause of error is less guarded against, and more difficult to get rid of, and that is the correction for the temperature of the air. The mean of the temperature of the two places may not at all represent the actual temperature of a great layer of air—four, five or six thousand feet in thickness. The errors from this cause may readily amount to thirty or forty feet, as the whole correction is frequently 300 feet. In the Black mountain measurements he started from a point whose level had been determined by a railroad survey, within seven miles of the nearest hill. By frequent barometric comparisons, during two different days, between this point and a house half way up the mountain he avoided the errors from great distance, and from great difference of altitude, which he had pointed out. Thence he determined by comparisons the hight of one of the nearer mountains. Bringing now both barometers to the tops of the mountains, he compared peak with peak by the barometer. His single observations differed only two or three metres from the means, and the mean of one day scarcely differed one metre [3 inches] from the mean of another. All the peaks had been determined twice, and some of them several times. His great wish was to induce gentlemen to use more frequently the barometer to measure mountains. It is so convenient, and so accurate, only provided that you know how to use it well.

His measurement of Mt. Washington, 6,285 feet, differed but three feet from the determination of the coast survey, made afterward, and even that might arise from the difference of the tide level assumed by the survey, and by the railroad engineers, who gave him the level of Gorham, N. H.—So that he would recommend very much all observers, who may be interested, to take hold and multiply observations on the hight of mountains and inland places. If I am traveling, said he, and I find I have not my barometer, I do not feel comfortable. I would carry it *always* in my pocket if it were not so long. At the request of the guides he had given names to the peaks, and a path had been made to one of them. The names were chiefly taken from natural features. All the measurements of hights of course depended for their reference to tidewater on that point determined by the railroad. The great mass of the mountains terminates abruptly to the north and to the south. It was mica slate and gneiss, probably wholly azoic—but he could not tell much about it, as his attention was absorbed with the other work he had undertaken. Few men can be obtained willing to accompany you through the forest—to go up and down through it on the mountain side is work for a giant. One great difficulty is in the beautiful groves of rhododendron. This choice green-house plant grows there in vast thickets, 15 or 20 feet high, almost impenetrable. Your path may be through flowers, but it is a struggle for life. It extends even to the tops of the mountains, even under the Balsam Firs, intermingled with the beautiful Kalmias and Azeleas. The great art in getting through is to go around; to keep on the crests; to follow the bear trail, the only help, and a great help. Yet it often compelled them to go like the bears, on all-fours. This is the culminating point of the Appalachian system in all respects. The average of the group is higher by 500 feet than the average of the White hills, and the bases are nearly double the hight of those.—The notches between the groups around Washington have an elevation of only 2,000 feet above the sea, but in the Black mountains the notches are more nearly 3,000 feet above the sea. Even the great chains of the Tennessee border give hights of 6,000 feet; and the Blue Ridge of 5,000 to 6,000; and the very cross ridges furnish peaks as high as the White hills, and chains of 5,000 feet in elevation. Indeed, the main Appalachian chain here, on the Tennessee boundary, maintains a hight of 5,000 feet for more than 150 miles.—The following are a few of the hights of the Black mountain groups: Black Dome, the highest point, 6,760; Hairy Bear, 6,606; Balsam Cone, 6,668; Black Brother, 6,626; Cat-tail Peak, 6,615; Deer Mount, 6,213; Long Ridge, 6,244; Bowler's Pyramid, 6,340. After a little conversation the section adjourned.

ON THE REMAINS OF FOSSIL ELEPHANTS.

Col. J. W. Foster, of Massachusetts read a paper on the geological position of the depoits in which occur the remains of the fossil elephants of North America, and other mammalia.

The true position in the geological series of these remains is still a mooted point among American geologists. Many maintain that the introduction of the elephant was subsequent to the glacial or drift epoch; and there are those even who assert that their extinction has taken place since the advent of man. I am disposed to refer their origin to a far higher antiquity, when the earth was tenanted with different forms of life, and when different physical conditions prevailed from what we now behold. I shall proceed, with some minuteness, to adduce the evidence on which this opinion is based; and in the accomplishment of the task, it will be necessary to inquire into the origin and age of the superficial deposits in which these remains are entombed. From the borders of the Arctic ocean, and extending as low down as latitude 40° N. we meet with accumulations of clay, sand, and gravel, interspersed with bowlders of Northern origin, and angular blocks derived from no great distance. In the basins of the great Lakes, these deposits consist of marly clays variously colored, overlaid by coarse pebbles and watercrown bowlders. Intermingled with these clays are the remains of vegetables, consisting so far as identified, of red and white cedar, pine, spruce, and cranberry, indicating at that time the existence of a sub-Arctic vegetation. Thus far, throughout the entire area occupied by these deposits few remains of shells have been found; but these are of fresh-water origin. These materials are sometimes mingled together *pell-mell*, but more frequently are distributed in stratified beds. The bowlders occupy no fixed position; but sometimes rest upon the surface, and at others are found deep down in the clay. We are too apt to regard the drift agency by which these materials have been dispersed, as of short continuance, but it may be presumed that a long interval intervened between the first grooving and planing down the rocks, and the cessation of the bowlder transportation, which observers have thus far failed to indicate by distinct geological monuments. There are other phenomena intimately connected with the close of the drift epoch, to which I shall proceed to advert; and these are the terraces. To those who have investigated the terraces which border the Northern Lakes and the rivers of our country, it must appear evident that they have not resulted from the bursting of the barriers at their outlets, but from the gradual rise of a portion of the continent, with sufficient pauses in the movement to admit of their formation. The oldest river terraces appear to have been formed toward the termination of the drift period, since we find that they contain angular and erratic blocks which could not have been transported to their present positions by existing agencies. This might not necessarily follow in all instances, for the drift might have been subsequently modified by fluviatile agency, but we have no means of distinguishing between primitive and modified drift. Even those terraces, composed of finely assorted materials, might have been formed at a time when the summits of the country were above the effects of the drift agency, while the depressed portions were exposed to the full force of its ravages. On the whole, it is reasonable to infer that the most ancient terraces are intimately connected with the drift phenomena, and that their formation is due to those elevatory movements by which the continents were made to assume their present outlines. When we witness the present operation of rivers in eroding their channels and forming alluvial deposits, we may well suppose that the more recent even of the terraces have a far higher antiquity than that ordinarily assigned to the origin of man. It is pretty well agreed among geologists that ice was the agent by which the rocks were plained down and striated, and the bowlders were transported, but it is not agreed whether this agent was in the form of glaciers or iceberges. For the production of glaciers these conditions are necessary. The country must be broken by high mountains and deep valleys, the difference in the Summer and Winter temperature must be marked, and the atmosphere so charged with moisture as to send down much snow and rain. Hence, as De Beaumont has remarked, in the tropical regions we have at the present day, mountains which rise above the snow line, but the variableness of the climate is not such as to cause the snow to accumulate in the form of glaciers. In Arctic America we have all the conditions for the formation of glaciers except the elevations and depressions of the soil. The hight of land, according to Sir John Richardson, between Lake Superior and the Arctic Ocean, does not exceed fifteen hundred and forty feet above the Lake. Suppose before the drift period the country was elevated a few thousand feet higher than now, the summits of the Adirondack and White Mountains would be within the limits of perpetual snow, and glaciers might be formed, which, descending into the valleys, would groove and polish the rocks and leave long lines of rocky fragments, known as Moraines. But at the West, where from the southern line of the drift to the Arctic Ocean there is no elevation above twenty-five hundred feet, no glaciers could be formed, whatever where the conditions of the climate. Ice would accumulate in immense quantities in the Polar regions, and a sub-arctic vegetation would cover the plains and slopes of the hills where now we meet with deciduous trees. A great variety of facts prove that the climate of both continents was much colder than now before the human epoch. Buried timber is almost exclusively of a sub-arctic character. The molusca of that period are said by Professor Forbes to indicate the same thing. The thick wool and hair of the fossil elephant of Europe adapted him to a cold climate, and the structure of his teeth adapted him to feed mainly upon the woody fibre of trees. The habits of the mastodon were the same, as is proved by the contents of his stomach—found in several instances to have been twigs and branches of coniferous trees which now grow in northern latitudes, and are identical with those buried in the drift.

Assume now that the country was submerged, as is proved by drift 2,000 feet above the ocean level, the ice in the polar regions would float away in the form of bergs, carrying fragments of rock and finer materials taken from their resting places on land. The general course of these bergs would be south, being driven by the currents of cold water toward the equator, and little influenced by the wind, because above seven-eights of their masses were submerged. Melting away they would leave long lines of bowlders in their progress, visible when the continent rose again, strewn about the land or imbedded in the

drift. The substances thrown down, in deep water or in currents, would be assorted and stratified, and when icebergs became stranded upon a reef or shoal coast, the rocks would be scratched and grooved and long lines of pebbles and bowlders thrown up; and as the country rose again slowly, with occasional pauses in the movement, summits would occasionally emerge; the ocean would recede, and a series of coast lines and beaches would be left to record its form or levels; estuaries would become lakes, rivers would increase their rapidity and excavate new channels, bearing into the pools the silt and sand of a former sea bottom. Terraces would be formed along the margin of the valleys, and the waters would cut away the barriers which obstructed them. These lakes and waters might soon become the home of numerous fresh-water molusca, whose remains now constitute beds of shell marl. As the lakes shoaled, by filling up or by deepening their outlets, their bottoms would become clothed with water plants flourishing so long as they had sufficient moisture.

Hence many of the swamps and peat beds in which the mastodon has been found, may have been formed at a period very remote, when compared with the advent of man, although the associated shells belong to still existing species. Our evidence is incontestible, of an augmentation of cold producing barriers of ice, of the depression of a vast area in the northern part of this continent, of the dispersion of bowlders, of the formation of terraces and beaches, and of the deposition of detrital materials enveloping the remains of terrestrial and moluscous animals.

There are two facts which militate against this hypothesis: 1st. The entire absence of marine slides; and 2d. With a depressed continent, we should look for an equable climate, and a vegetation conforming to that of the tropics. Having thus sketched the peculiarities of drift deposits, I turn to their connection with the remains of the elephant. Col. Foster first spoke of the remains of this animal found in the Muskingum Valley. The foundation of this valley consists of the coal measures rising on either side to the hight of 200 to 300 feet. The soil is clayey and contains no bowlders or granite pebbles. Within the basin, skirting the flanks of these hights, on each side, is a terrace rising 60 feet above the Muskingum, composed of the valley drift, and resting upon the rocks. The river bottom between these terraces of fine sand or clay, is free from loose blocks and bowlders. [A minute description of the strata and topography of this portion of the Muskingum Valley, near Zanesville, illustrated by drawings, was introduced to show the application of the principles of drift in the early part of this paper.] Recurring now to the remains of the mastodon found in this valley, and which was a specimen of uncommon size and well preserved, the speaker showed that they were entirely confined to the oldest of these terraces. He then analyzed the character of the deposits in Southern Ohio and Western Virginia, Kentuky, Vermont, Canada, and the Southern States, where similar remains have been found. He next instituted a comparison between these deposits and those of Europe, which contain the *Elephas primogenius*.

From all the facts in the case the author believed that the fossil elephant of America commenced his existence before the drift agencies had entirely ceased—when the waters stood at a higher level—when the contours of the continent were different, when a different climate prevailed, and when a sub-arctic vegetation stretched far toward the tropics—at a time when the valleys were excavated by the retiring waters and the streams assumed nearly their present direction. It was a period of erosion which ought to be marked by distinct geological monuments; he would designate it as the *Fluviatile period*. Cotemporary, probably, with the elephant was the mastodon of a more ponderous frame but of an inferior hight; the fossil beaver tenanted the streams and lakes; the ox and the bison roamed over the plains, while the tapir wallowed in the swamps, all belonging to extinct species. In the milder regions of the South, visited by the elephant and mastodon in their migrations, lived the great leaf-eating megatherium, the mylodon, the megalonyx, the hippopotamus, the elk, the deer, also belonging to extinct species; while at the head of the carnivora stood the colossal lion, which then as now was the monarch of the wilderness.

ON THE FORMATION OF CANNEL COALS.

Prof. Newberry read a paper on the formation of cannel coals.

These coals, as a class, compared with ordinary bituminous coals, are characterized by greater homogeneity of physical structure and chemical composition, having a more laminated and slaty fracture—impure specimens, conchoidal across the plane of stratification—contain more earthy and more volatile matter (and of course less fixed carbon), and the gases which they evolve have a higher illuminating power. The fossils which they contain are either aquatic, or exhibit marks of the action of water. The origin of these differences between cannel and common bituminous coals has been the subject of considerable diversity of opinion among geologists, the peculiar characteristics of cannel having been ascribed to a peculiar and highly resinous vegetation to applied or generated heat, all of which theories, being more or less unsatisfactory, this became one of the problems to which his attention had been specially directed in his investigations of the geological phenomina of the Ohio system of the Alleghany coal field. His observations upon the cannel coal beds of Ohio, the changes they exhibit in going from one front of out crop to another, their physical and chemical characters, &c., have resulted in giving him the conviction that the peculiar characters presented by beds of cannel coal are due *to their deposition in water, and the commingling with macerated and dissolved vegetable tissue, which for the most part compose them*, and a *considerable portion of animal matter*. 1st. Cannel coal always exhibits a tendency to assume the foliated structure of slates and shells—a structure which it must have derived from aqueous deposition. It often is found shading into bituminous shale—into which it is converted simply by accessions of earthly matter. Bituminous shale and cannel coal may therefore be considered the same consolidated ligneous mud, deposited from aqueous suspension with different admixtures of carbonaceous matter, in bituminous shales as in cannel coal, exhibiting a preponderance of volatile matter over fixed carbon, and the gas furnished by it contains a larger proportion of the more volatile hydro-carbon, and possesses a higher illuminating power than that derived from ordinary bituminous coal. The chemical composition of cannel coal, so rich in volatile ingredients, is such as would naturally follow the decomposition of vegetable matter while constantly submerged. What we call the decay of plants after the loss of their vegetable life is in fact a *combustion*—an oxidation of their hydrogen to form water of their carbon to form carbonic acid. Under water these changes go on still more slowly, and a larger portion of the vegetable tissue becomes bituminized. In such circumstances bituminization is the oxydation of the carbon and escape of carbonic acid—with the combination and removal of a portion of the alkaline phosphates and carbonates, &c., which go to form the loss—the union of hydrogen with the carbon to form carburretted hydrogen and other hydro-carbons—a portion of which are given off and part combine mechanically or chemically with the oxygen, a portion of the alkalies and the earthy matter—to form an almost indestructible mass, destined to serve man for the generation of heat, and which we call coal.

It is evident that the more ready the access of oxygen to the carbonaceous matter during the process of bituminization, the larger the proportion of the products of the process will be those of combustion; and the more perfectly the oxygen is excluded, the larger proportion of the more volatile and combustible constituents of the wood will be retained. Of the conservative influence of water and vegetable matter we have ample evidence, not only in the almost incalculable durability of wood when constantly submerged, but in coal itself. In all beds of coal, except those where the process of volatilization is complete, in plumbago, and perfectly gasless anthracites, the work of decomposition is constantly going on, and water is to this as to ordinary combustion, an extinguisher. In this country coal is commonly mined from the outcrop, in some hill-side, where it is not covered by standing water; in such circumstances a progressive change is noticeable both in the chemical and physical proportion of the coal from the surface to the point where atmospheric influence ceased. Near the surface it is friable and lusterless, and becomes harder and more brilliant as it is penetrated. Near the surface, too, it is nearly destitute of gases, the proportion of volatile matter increasing as the coal improves in appearance. Of this Mr. N. was assured, by personal examinations of specimens from the outcrop and from deep in the mine. On the contrary, where the outcrop was covered by water, the coal will be found hard and light, and containing nearly its normal quantity of volatile ingredients. The higher illuminating power of the gases of cannel would naturally follow from the preservation of the volatile elements of wood by its continuous submersion in a hydrogenous liquid and the presence of a portion of animal matter. That a resinous vegetation could have given its inflammable character to cannel he thought improbable. He had found unchanged resin in bituminous coal, but never in cannel. The greater relative proportion of earthy matter in cannels would be an almost necessary result of covering the vegetable matter with a fluid heavier than air, and of greater power of transporting sediment.—The appearance of the fossils previously noticed also seems to prove the aqueous nature of the origin of cannel. Pieces of cannel from England correspond with those in which these fossils are found. Shells, too, are not unfrequently found in the middle of a stratum of cannel. Among the vegetable remains found in this coal by Mr. Newbery are *Stigmariæ*, roots and rootlets of trees which grow in coal-producing marshes, roots so characteristic of the under class of the coal seams, and others. Strata of ordinary bituminous coal usually consist of layers of greater or less thickness of brilliant bitumen, having a conchoidal fracture alternating thin layers of what is generally cannel, sometimes containing so much earthy matter as to become bituminous shale; at times these layers of cannel are of considerable thickness, and form an important part of the stratum. This arrangement is attributed to the variable quantity of water covering the coal marshes—the cannel-like layers being deposited during the prevalence of higher water, when the fishy remains could naturally have become a portion of the stratum.

Iron Cars.

Since the recent terrible slaughter on the North Pennsylvania railroad, public attention has been turned to the necessity of having cars built of a totally different material from wood, more particularly for passenger transportation. Dr. La Mothe has recently patented an iron car which is building at Paterson, N. J. It will be of the ordinary shape and dimensions, being designed to seat sixty passengers, and resting on two four-wheeled trucks. The body of the car will consist of strong iron bands, twelve or fifteen inches apart, running lengthwise and crosswise, and secured by rivets at their intersections. This will constitute the frame work, which will be covered by sheet iron on the flooring, and iron panels with glass windows on the side. Ventilators will be liberally supplied at the top. There is to be no wood work whatever about the cars; but to counteract the radiation of heat and obviate danger from accidents, the inside will be lined throughout with several layers of thick paste boards and heavy cushions.

Railway Share List,

Compiled from thelatest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.	Length of Road.	Capital paid in.	Debt.	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do.	Dividend for do.	Price of Shares.
Atlantic & St. Lawrence	149	1,538,100	2,973,700	6,019,929	470,647	.....	6	73
Androscog. & Kennebec	55	588,042	1,622,905	2,210,947	209,475	110,247	none	10
Kennebec & Portland	66	1,114,725	1,661,236	2,470,600	.....	.....	none	5
Portl., Saco, & Portsm'th	51	1,367,000	119,237	1,486,327	270,214	112,491	6	85
Boston, Conc. & M'ntreal	93	1,808,093	1,059,512	2,771,310	238,234	120,834	....	....
Cheshire	53	2,085,925	899 313	3,179,657	380,221	143,565	2	14
Concord	35	1,500,000	8,242	1,412,576	335,949	136,454	6	74
Northern, N. H.	82	2,768,400	none	3,016,633	370,529	138,299	2½	39½
Com't & Passumps. Riv.	61	1,048,145	787.608	1,780,062	162,687	55,173	none	4
Rutland & Burlington	120	2,233,376	2,662,396	5,878,428	394,971	.....	none	....
Vermont Central	117	5,000,000	3,550,236	8,463,366	820,119	214,793	none	2
Boston and Lowell	27	1,830,000	325,635	2,188,595	489,754	140,377	6	57
Boston and Maine	83	4,076,974	150,000	4,179,535	854,426	339,060	6	77½
Bostonand N.Y. Central	74	2,240,300	1,518,671	3,463,718	59,917	8,740	none	7
Boston and Providence	55	3,160,000	359,132	3,677,154	558,671	219,689	none	63½
Boston and Worcester	68	4,500,000	655,428	4,865,439	1,008,004	404,461	6½	81
Cape Cod	47	681,690	280,598	997,252	119,221	65,527	3	49¼
Connecticut River	52	1,591,110	273,241	1,802,244	286,563	103,787	5½	40
Eastern, Mass.	60	2,583,400	2,947,737	4,621,016	647,281	305,998	....	40
Fitchburg	107	3,540,000	153,700	3,765,998	681,163	225,071	....	67¼
Worcester and Nashua	46	1,141,000	205,565	1,351.271	204,780	75,760	2	43
Prov'nce and Worcester	43	1,510,020	338,461	1,806,696	311,430	138,057	....	70
Hartford and N. Haven	72	2,359,000	939,000	3,313,932	730,012	352,799	10	125
Hart'd, Prov. and Fishkill	122	2,008,110	2,030,665	4,060,869	258,685	119,611	none	....
Housatonic	110	2,000,000	414,240	2,431,773	339,196	71,427	none	....
Naugatuck	57	1,031,800	524,244	1,580,723	220,459	93,768	....	....
N. York and N. Haven	62	3,000,000	2,376,803	5,376,803	884,306	338,877	none	25
N. Haven and N. London	50	738,258	735,165	1,450,318	88,007	30,318	none	....
N. London, W. & Palmer	66	509,200	1,073,673	1,594,383	124,044	66,430	none	....
Norwich and Worcester	66	2,122,300	873,489	2,597,153	304,236	88,458	2½	25
Albany Northern	32	439,005	1,625,098	1,840,695	117,716	9,904	....	....
Black River and Utica	35	643,330	317,859	974,323	In progr.	.....	....	....
Buffalo, Corn. and N. Y.	100	1,487,874	1,601,183	2,819,096	172,476	66,333	none	....
Buffalo and N. Y. City	92	798,439	2,587,849	3,401,868	288,392	31,896	none	....
Buffalo and St. Line	69	1,300,000	1,040,000	2,494,364	679,750	355,763	10	....
Canandaigua and Elmira	47	434,111	922,393	1,275,796	174,089	69,506	....	....
Canandaigua & Niagara F's	98	1,315,000	2,279,854	3,495,832	.....	.....	....	....
Cayuga & Susquehanna	35	687,000	506,689	1,187,562	135,433	48,649	none	....
Hudson River	144	3,758,466	9,250,362	12,737,898	1,812,087	603,946	none	28½
Long Island	95	1,875,148	668,949	2,555,986	301,793	116,462	none	26
New York Central	534	24,154,860	14,462,742	28,523,913	6,563,581	3,162,126	8	86½
New York and Erie	464	10,023,958	25,126,669	33,439,431	5,488,993	2,627,118	none	60¾
New York and Harlem	133	5,717,100	4,069,769	8,758,203	1,035,577	234,126	none	15½
Northern, N. Y.	118	1,633,022	4,406,874	5,470,714	520,153	135,754	none	1½
Oswego and Syracuse	35	399,000	216,681	723,683	126,540	59,982	3½	....
Pottsdam and Watertown	29	467,200	294,189	749,683	In progr.	.....	none	....
Rensselaer & Saratoga	25	610,000	140,000	896,423	241,149	82,600	7	....
Saratoga and Whitehall	48	500,000	395,600	.....	71,909	21,089	none	....
Syracuse & Bingham'n	80	768,389	1,578,804	2,272,777	159,484	22,503	none	....
Troy and Boston	27	437,830	737,079	1,109,822	156,363	55,184	....	....
Watertown and Rome	97	1,370,378	700,979	2,068,063	404,374	172,474	3½	....
Belvidere Delaware	64	1,000,000	1,619,000	2,619,000	161,355	75,534	none	....
Camden and Amboy	60	3,000,000	11,407,200	8,636,523	2,017,127	961,941	12	124
Camden and Atlantic	30	3,482,850	690,000	4,310,011	861,514	500,747	10	121
New Jersey	60	2,000,000	2,266,176	3,683,149	393,728	171,603	....	....
New Jersey Central	63	1,157,805	375,000	1,636,550	229,341	96,267	6	....
Morris and Essex	53	1,637,867	342,564	1,988,317	Recently	opened.	....	....
Alleghany Valley	44	1,700,000	1,940,000	3,640,000	219,253	52 450	....	....
Cataw., Wil. & Erie	63	1,099,500	12,211	1,191,833	146,381	66,994	....	....
Cumberland Valley	56	3,051,622	3,884,702	6,022,667	528,911	259,263	6	80
Del. Lack. & Western	109	660,000	150,000	750,000	.....	.....	10	....
Erie and North East	20	600,000	1,200,000	1,348,812	89,535	53,335	....	....
Philad. & Sunbury	33	2,606,100	546,222	3,407,651	353,301	255,930	9	....
Little Schuylkill	28	2,530,855	731,492	3,287,678	.....	.....	....	....
Northern Penn.	19	12,355,525	7,519,096	18,483,489	3,533,333	1,829,277	6	97
Pennsylvania	256	11,030,309	7,438,800	19,004,180	4,321 793	2,593,915	10	85¾
Phil. and Reading	96	5,312,805	3,032,003	7,979,466	942,449	371,124	....	43
Phil. Wil. and Baltimore	98	899,350	376,800	1,274,150	206,981	113,443	9	59¼
Phil. Germ. & Norrist'n	38	1,339,661	111,493	1,369,630	In progr.	.....	....	....
Pittsb. and Connellsville	147	2,093,740	262,886	2,075,650	In progr.	.....	....	....
Sunbury and Erie	269	1,500 000	2,192,364	3,464,454	503,500	253,500	....	....
Williamsport and Elmira	78	13,105,600	9,670,491	23,031,507	3,711,453	1,601,090	3	70
Baltimore and Ohio	382	1,655,000	25,000	1,650,000	369,229	124,981	6	....
Washington Branch	41	1,860,000	2,630,000	5,544,733	558,427	282,182	....	....
Northern Central, Md.	84	413,583	4,316,073	4,729,656	In progr.	.....	....	....
North-Western Va.	165	1,457,500	638,622	2,754,047	211,505	111,363	....	....
Orange and Alexandria	97	1,371,700	1,489,012	2,739,362	123,466	69,710	none	....
South Side	123	1,221,277	280,000	914,695	In progr.	.....	....	....
Pittsb'g & Steubenville	82	2,800,666	1,051,248	4,184,516	379,366	172,391	none	....
Virginia Central	138	2,500,000	2,969,780	5,469,780	255,920	126,329	....	....
Virginia and Tennessee	149	2,000,000	1,200,000	3,200,000	316,309	144,662	....	....
Richmond and Danville	127	768,100	256,048	1,148,054	151,947	73,234	none	....
Richm'ond & Peterab'g	22	1,000.000	730,506	1,708,169	232,172	120,212	7	....
Rich'd, Fred. & Potom'c	130	769,000	158,502	1,009,115	263,874	123,661	4	....
Petersburg and Roanoke	63	4,000,000	.....	4,235,000	Recently	opened.	....	....
North Carolina	228	1,070.775	1,373,989	2,330,877	339,800	151,064	none	....
Wilm'ton & Manchester	171	973,300	120,573	1,135,451	173,923	103,392	2½	....
Raleigh and Gaston	97	1,201.000	380,000	1,719,045	291,219	138,875	6	....
Charlotte and S. Carol.	109	1,293,464	968,800	1,999,080	214,865	206,774	....	....
Greenville & Columbia	165	4,188,020	2,731,545	7,133,848	1,585,991	883,402	9	....
South Carolina	203	719,842	225,000	1,092,222	251,076	161,193	7½	....
Atlanta and La Grange	87	4,156,000	260,991	4,416,991	1,068,202	550,350	7½	....
Georgia	211	3,833,140	none	3,833,140	1,280,570	645,774	9	....
Georgia Central	191	1,330 560	167,712	1,647,045	350,802	96,104	10	96
Macon and Western	102	1,274,000	654,816	1,929,416	249,128	113,624	8	....
Mon'gom'ry & W. Point	116							

NAME OF COMPANY.	Length of Road.	Capital paid in.	Debt.	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do.	Dividend for do.	Price of Shares.
Brunswick and Florida, Ga.	30	300,000	300,000	550,000	In progr.	.....	....	....
South Western	92	1,097,496	465,500	1,624,920	253,306	141,168	8	....
Tennessee and Alabama	30	246,486	.....	679,906	In progr.	.....	....	....
Tennessee and Mississ.	....	170,931	.....	175,340	In progr.	.....	....	....
Memphis and Charlest'n	217	2,179,440	2,127 002	4,028,796	311,631	159,572	....	....
Mobile and Ohio	153	2,568,555	1,802,921	4,536,412	199,982	100,236	....	....
Miss. Central	188	642,534	none	628,303	In progr.	.....	....	....
N.O., Opelousas & G.W.	55	2,930,425	671,645	2,657,565	In progr.	.....	....	....
Vicksb., Shreveport & Tex.	....	111,750	none	107,895	In progr.	.....	....	....
East Tennessee and Ga.	111	1,000,000	1,500,000	2,500,000	In progr.	.....	....	....
East Tennessee and Va.	16	625,425	988,593	1,033,781	In progr.	.....	....	....
Nash. and Chattanooga	151	2,319,330	1,497,081	3,843,694	316,090	112,177	none	....
Covington & Lexington	98	1,302,804	2,235,939	3,738,753	264,973	138,694	....	18
Lexington and Frankfort	29	430,055	158,099	637,071	93,263	43,635	6	....
Lexington and Danville	....	694,444	52,734	747,178	In progr.	.....	....	....
Louisville and Frankfort	65	698,236	669,061	1,589,566	244,014	96,902	6	....
Atlantic & Gt. Western	254	866,939	77,294	613,231	In progr.	.....	....	....
Bellefontaine and Ind.	118	1,881,635	2,025,925	2,852,652	298,293	140,828	none	30
Clev., Col., and Cincin.	141	4,547,020	122,857	4,613,722	1,290,295	732,056	9	101¼
Cleveland and Toledo	200	2,675,425	2,689,301	5,124,629	736,272	396,986	10	76¾
Clev. and Mahoning	103	.....	.....	628,533	In progr.	.....	....	....
Clev. and Pittsburg	133	2,780,744	3,043,992	5,537,466	581,877	309,518	....	57¾
Cin., Hamilt'n & Dayton	60	2,153,900	1,321,213	2,987,757	508,271	278,012	....	64¾
Cin., Wilm. & Zanesv'e	131	1,120,450	1,131,265	2,326,459	In progr.	.....	....	12
Columbus and Xenia	55	1,484,550	149,000	1,481,733	356,366	187,518	10	82
Dayton, Xen., & Belpre	63	437,838	422,658	860,496	In progr.	.....	....	....
Dayton and Michigan	140	1,076,602	393,011	1,185,826	In progr.	.....	....	....
Dayton and Western	35	310,000	500,000	733,769	.....	.....	....	17
Eaton and Hamilton	42	454,690	904,489	1,155,135	171,929	65,000	....	20
Little Miami	65	2,963,921	1,171,785	3,648,172	681,562	336,708	....	88
Mad River and L. Erie	205	2,451,650	2,572,932	4,446,661	.....	.....	....	15
Central Ohio	138	1,520,927	3,485,076	4,283,443	Recently	opened.	none	....
Ohio and Penn.	187	2,451,700	3,219,000	5,670,700	1,111,626	662,117	9	....
Pittsb'g, Mayav'e & Cin.	50	371,350	31,000	390,933	In progr.	.....	....	....
Sand'y, Mansf. & New'k	127	1,350,000	2,206,357	3,552,357	328,958	164,479	none	....
Scioto & Hocking Valley	135	403,975	509,050	888,858	In progr.	.....	....	....
Springf., Mt. Vernon & P.	113	1,000,000	950,000	.....	In progr.	.....	....	....
Tol., Wabash & St. Louis	242	2,500,000	4,530,000	.....	In progr.	.....	....	....
Cin., Log, and Chicago	255	4,196,679	1,006,125	2,080,433	In progr.	.....	....	....
Evansv'e & Crawfordsv.	109	706,945	1,177,596	1,844,541	127,400	64,552	....	....
Ind. and Cincinnati	88	1,213,723	1,442,859	2,178,461	356,012	193,142	7	60
Indiana Central	66	611,400	1,261,179	1,907,911	350,176	134,375	....	50
Ind., Clev. & Pittsburg	83	826,825	1,099,400	1,831,225	226,058	93,010	none	....
Jeffersonville	66	1,014,252	694,000	.....	206,544	94,318	none	....
Madison and Indianapolis	87	1 647,700	1,336,816	1,205,000	286,146	112,880	none	....
New Albany and Salem	288	2,535,121	5,281,848	6,643,189	645,827	371,402	none	....
Peru and Indianapolis	73	.....	858.314	.....	150,000	90,000	none	16¼
Terre Haute and Ind.	73	974,800	604,355	1,502,166	287,512	189,702	10	....
Chicago and Rock Isl'd	182	3,141,500	2,887,155	5,214,152	In progr.	.....	....	94
Chicago and St. Louis	220	.....	.....	.....	1,077,812	.....	....	....
Chicago, Burl. and Quincy	58	1,639,100	1,684,736	2,884,622	722,580	379,821	20	....
Central Military Tract	88	1,202,500	2,133 050	2,920,241	471,399	219,588	....	....
Chic., St. Paul & F'd du Lac	178	2,300,000	1,325,000	3,625,000	In progr.	.....	....	....
Galena and Chicago	259	5,441,500	3,318,039	7,742,614	2,315,786	1,192,042	22	108
Illinois Central	627	2,271,050	19,416,392	20,374,446	1,532,118	527,952	....	110
Peoria and Oquawka	93	569,889	818,464	1,388,342	In progr.	.....	....	....
Ohio & Miss. (Wst. Div.)	147	1,780,295	3,292,403	4,870,586	Recently	opened.	....	....
Terre Haute and Alton	173	2,281,420	1,256,000	3,537,424	In progr.	.....	....	....
Detroit and Milwaukee	185	838,000	1,128,964	1,966,969	In progr.	.....	....	....
Mich. Central	282	6,032.444	5,996,013	10,668,155	2,215,283	879,656	10	91
Mich. South'n & N. Ind.	475	6,928,900	6,319,224	11,645,208	2,410,000	875,000	10	90¾
Green Bay, Mil. & Ch.	155	764,075	442,726	1,193,765	In progr.	.....	....	65
Milwaukee and Miss.	106	1,826,428	2,467,889	3,578,757	691,843	417,443	17	76¾
Milwaukee & Watert'n	72	354,861	132,000	514,238	In progr.	.....	....	....
Milwaukee and Horicon	15	554,200	.....	354,109	In progr.	.....	....	....
Milwaukee & La Crosse	51	1,351,832	532,131	1,883,963	In progr.	.....	....	....
Racine and Miss.	47	921,906	380,715	1,289,321	In progr.	.....	....	....
Hannibal & St. Josephs	....	292,351	580,000	823,310	In progr.	.....	....	....
North Missouri	19	.....	.....	1,824,346	In progr.	.....	....	....
Pacific	125	4,083,900	4,337,828	7,115,949	Recently	opened.	....	....
St. Louis and Iron Mt.	....	445,170	.....	186,115	In progr.	.....	....	....
Panama	49	3,743,000	.....	6,564,852	628,850	416,756	9½	93¾

U. S. GOVERNMENT SECURITIES.

	OFF'D. Per ct.	ASKED. Per ct.		OFF'D. Per ct.	ASKED. Per ct.
Loan, 6 per ct. 1856	101½	.....	Loan, 6 per ct. 1868	117¼	.....
Do. 6 do. 1862	111	.....	Do. 6 do. coup's 1868	117¼	.....
Do. 6 do. 1867	117¾	118	Do. 5 do. Tex. ind. 1866	107¼	.....

STATE SECURITIES.

Maine, 6 per ct. 1860	101¼	103	Indiana, Can. Loan, 6 per ct.	....	.....
Massachusetts, 5 per ct. 1859	98¼	99¼	Do. do. pref. 5 do.	....	.....
Do. 5 stg.	100	101	Kentucky, 6 per ct. cp. 1869	72..102¼	103
New York, 6 per ct. 1860-62	106	109	Louisiana, 6 do. cp. long	91¾	92
Do. 6 do. 1864-65	108	114	Maryland, 6 do. cp. 1870-90	103	105
Do. 6 do. 1866-67	110	115	Do. 5 do. cp.	....	....
Do. 6 do. 1872-73	119	119	Missouri, 6 do. cp. 1872	88	88¾
Do. 5¾ do. 1860-61	103¾	.....	N. Carolina, 6 do. cp. 1873	96¾	97
Do. 5¾ do. 1865	.....	.....	Ohio, 6 do. 1856	99¼	100
Do. 5 do. 1858-60	101¼	103	Do. 6 do. 1860	100¾	....
Do. 5 do. 1866	105¾	106¼	Do. 6 do. 1870	105	108
Do. 4½ do. 1858 59-64	99	101	Do. 6 do. 75	109	....
Alabama, 5 do. coup.	85	95	Do. 5 do. 1865	.....	99
California, 7 do. coup. 1870	80	85	Penna., 5 do.	82¾	83
Georgia, 6 do. do. 1872	99	.....	Do. 5 do. cp. 1877	88	....
Illinois Int. Imp. 6 per ct. 1847	110	114	Tennessee, 5 do. cp.	74¾	77
Do. 6 do. Int'est.	79	80	Do. 6 do. cp.	92¼	94
Indiana, do.	82¾	82¾	Virginia, 6 do. cp. 1880	92¾	93
Do do.	53	55			

Railroad Bonds.

NAMES OF COMPANIES. (*The following quotations are ex-interest.*)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked.
Alabama and Tennessee River	$898,000	1st mortgage, convertible	7	1st Jan. 1st July	N.Y.	1872	----	85½
Buffalo and State Line	500,000	Do. inconvertible	7	April, October.	"	1866	----	97½
Bellefontaine and Indiana	600,000	Do. convertible	7	Jan'y, July	"	1866	----	85
Do. do.	200,000	Real estate, convertible	7	Jan'y, July	"	1858	----	----
Do. do.	200,000	Income, guar. Cl. Col. & Cin.	7	Feb'y, August.	"	1859	----	----
Central Ohio	1,250,000	1st mort. conv. east. sec.	7	Divers	"	1861-64	----	85
Do.	800,000	2d do. inconvertible	7	March, Sept.	"	1865	----	72½
Cincinnati, Hamilton, and Dayton	500,000	1st mortgage inconvertible	7	20. Jan. 20. July	"	1867	----	91
Do. do. do.	465,000	2d do. do.	7	May, Novemb.	"	1880	80	84
Cincinnati and Marietta	2,500,000	1st mortgage, conv. till 1862	7	Jan'y, July	"	1868	70	77½
Cincinnati, Wilmington, and Zanesville	1,300,000	Do. convertible	7	May, Novemb.	"	1862	----	85
Cleveland, Painesville, and Ashtabula	567,000	Do. inconvertible	7	Feb'y, August.	"	1861	91	95
Cleveland and Pittsburgh	800,000	Do. convertible	7	Feb'y, August.	"	1860	----	93
Do. do.	1,200,000	Do. on Branches	7	March, Sept.	"	1873	75	80
Cleveland and Toledo	525,000	Do. inconvertible	7	Feb'y, August.	"	1863	----	87½
Chicago and Mississippi	800,000	Do. conv. till 1857	7	April, October.	"	1862-72	----	80
Do. do.	1,200,000	Do. inconvertible	7	April, October.	"	1862-72	----	80
Covington and Lexington	400,000	Do. do	6	April, October.	"	1867	----	75
Do. do.	1,000,000	2d mortgage, convertible	7	March, Sept.	"	1883	63	65
Delaware, Lackawanna, and Western	1,500,000	1st mortgage, do.	7	April, October.	"	1875	----	91
Fort Wayne and Chicago	1,250,000	Do. conv. till 1863	7	Jan'y, July	"	1873	----	80
Galena and Chicago	2,000,000	Do. inconvertible	7	Feb'y, August.	"	1863	94½	95
Do. do.	2,000,000	2d mortgage, do.	7	May, Novemb.	"	1875	85	86½
Great Western (Illinois)	1,000,000	1st mortgage, do.	10	April, October.	"	1868	----	90
Green Bay, Milwaukee, and Chicago	400,000	Do. convertible	8	10. April, 10. Oc.	"	1863	90	95
Jeffersonville	300,000	Do. 2d sec. inconv.	7	April, October.	"	1873	----	75
Indiana Central	600,000	Do. convertible	7	May, Novemb.	"	1866	----	90
Indianapolis and Bellefontaine	450,000	Do. do.	7	Jan'y, July	"	1860-61	79	----
Indianap. & Cin'ti (for Lawb. & U. M.)	500,000	Do. conv. till 1857	7	March, Sept.	"	1866	----	85
La Crosse and Milwaukee	950,000	1st mort. 1st sec. conv. till 1864	8	May, Novemb.	"	1874	84	85
Lake Erie, Wabash, and St. Louis	3,400,000	1st mortgage, conv. till 1859	7	Feb'y, August.	"	1865	70	72
Little Miami	1,500,000	Do. inconvert.	6	2. May, 2. Nov.	"	1883	77½	80
Michigan Central	1,000,000	No mortgage, convertible	8	April, October.	Bost.	1860	100½	101
Do.	600,000	Do. do.	8	March, Sept.	"	1869	101½	102½
Milwaukee and Mississippi	600,000	1st mort. 1st sec. conv. till 1857	8	Jan'y, July	N.Y.	1862	94½	95½
Do. do.	650,000	Do. 2d do. 1858	8	April, October.	"	1863	95	96
Do. do.	1,250,000	Do. 3d do. 1860	8	June, Decemb.	"	1877	88	89
New Albany and Salem	600,000	Do. 1st section	10	April, October.	"	1858-62	----	----
Do. do.	2,325,000	Do. oth. sec. con. till 1858	8	May, Novemb.	"	1864-75	----	----
Northern Cross	1,200,000	1st mortgage, convertible	8	Jan'y, July	"	1873	----	95
Ohio and Indiana	1,000,000	Do. do.	7	Feb'y, August.	"	1867	----	90
Ohio and Pennsylvania	1,750,000	Do. do.	7	Jan'y, July	"	1865-66	----	96
Do. do.	2,000,000	Income, convertible	7	April, October.	"	1872	----	79
Pennsylvania (Central)	5,000,000	1st mortgage, conv. till 1860	6	Jan'y, July	Phila.	1880	98¼	----
Racine and Mississippi	680,000	Do. conv., sink'g f'd	8	Feb'y, August.	N.Y.	1875	----	85
Scioto and Hocking Valley	300,000	Do. 1st sec. conv	7	May, Novemb.	"	1861	----	----
Steubenville and Indiana	1,500,000	Do. convertible	7	Jan'y, July	"	1865	----	80
Terre Haute and Indianapolis	600,000	Do. do.	7	March, Sept.	"	1866	98	100
Terre Haute and Alton	1,000,000	Do. do.	7	Feb'y, August.	"	1862'7'72	77	79
Do. do.	2,000,000	2d do. do.	8	Feb'y, August.	"	1870	71¼	73

NAMES OF COMPANIES. (*The following quotations include the accrued interest.*)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked
Baltimore and Ohio	2,500,000	Mortgage	6	April, October	Balt.	1885	86¾	87
Do. do.	1,128,500	Do.	6	Jan'y, July	Balt.	1875	87½	87¾
Chicago and Rock Island	2,000,000	1st mortgage, conv. till 1858	7	10. Jan. 10. July	N.Y.	1870	95	95¼
Erie Railroad	3,000,000	1st mortgage	7	May, Novemb.	"	1867	105	----
Do.	4,000,000	2d mortgage, convertible	7	March, Sept.	"	1859	95½	96½
Do.	6,000,000	3d mortgage	7	March, Sept.	"	1883	95	97½
Do.	4,000,000	Not conv. Sink. Fund, $420,000	7	Feb'y, August.	"	1875	93	93¾
Do.	4,351,000	Convertible, Inscription	7	Feb'y, August.	"	1871	86	87
Do.	3,500,000	Convertible	7	Jan'y, July	"	1862	91	93¾
Hudson River	4,000,000	1st mortgage, Inscription	7	Feb'y, August.	"	1869-70	98¼	99
Do.	2,000,000	2d do. do.	7	16. June, 16. Dec	"	1860	86	86½
Do.	3,000,000	3d do. convertible	7	May, Novemb.	"	1870	66	66½
Illinois Central	17,000,000	Mortgage, inconvertible	7	April, October.	"	1875	92¼	92⅝
Do. (Free Land)	3,000,000	M'ge 345,000 acrs-priv. 7 shar's	8	March, Sept.	"	1860	94	----
Michigan Southern	1,000,000	1st mortgage, inconvertible	7	May, Novemb.	"	1860	92	95
New York and Harlem	1,800,000	Do. do.	7	May, Novemb.	"	1861-72	80	84
New York and New Haven	750,000	No mortgage, do.	7	June, Decemb.	"	1855'60'6	80	82
New Haven and Hartford	1,000,000	1st mortgage, do.	6	Jan'y, July	"	1873	----	94
Northern Indiana	1,000,000	Do. do.	7	Feb'y, August.	"	1861	90⅜	----
Do. Goshen Branch	1,500,000	Do. do.	7	Feb'y, August.	"	1868	84	85
New York Central	8,287,000	No mortgage, do.	6	May, Novemb.	"	1883	89¾	89¾
Do. do.	3,000,000	No m'ge conv. from June 57-59	7	15. June, 15. Dec	"	1864	101	101⅓
Panama, 1st issue	900,000	Convertible till 1856	7	Jan'y, July	"	1866	100	102
Do. 2d do.	1,478,000	Do. till 1858	7	Jan'y, July	"	1866	100	102
Reading, issued 1843	1,573,000	Mortgage, inconvertible	6	Jan'y, July	Phila.	1860	----	----
Do. do. 1844, '48, '49	1,300,000	Do. convertible	6	Jan'y, July	"	1860	88	90
Do. do. 1849	3,469,000	Do. inconvertible	6	April, October.	"	1870	86¾	87

CITY SECURITIES.	Int'st payable.	Off'd	Askd
New York. 7 per ct. 1857	Feb'y, May, August, and November.	100	101
Do. 5 do. 1858-'60		95	97
Do. 5 do. 1870-'75		95½	97
Do. 5 do. 1890		94½	95½
Albany, 6 per ct. coup. 1871-'81 X	Feb'y, August.	97	100
Alleghany, 6 per ct. coup. X	Jan'y, July	----	76
Baltimore, 6 per ct. 1879-'90	Quarterly	----	99
Boston, 5 per ct. coup. X	April October.	97	99
Brooklyn, 6 per ct. coup. Long X	Jan'y, July	100	100½
Clev'l'd, 7 per ct. cp. W. W. 1879 X	Do. do.	101	102
Cincinnati, 6 per ct. coup. X	Divers	88¾	89
Chicago, 6 per ct. coup. 1873-'77 X	Jan'y, July	89	90
Do. 7 per ct. coup. 1880 X	Jan'y, July	----	100½
Detroit, 7 per ct. cp. W. W. 1873-'78 X	Feb'y, August.	101	102½
ubuque, 8 per ct. cp. Long X	March, Sept.	101¼	----
JerseyCity, 6 p.ct.cp. W W. 1877 X	Jan'y, July	94	96
Louisville, 6 per ct. cp. 1880-'83 X	Divers	79	80
Memphis, 6 per ct. coup. 1882 X	Jan'y, July	65	70

CITY SECURITIES.	Int'st payable.	Off'd	Askd
Milwaukee, 7 per ct. coup. X	Divers	80	85
New Orleans, 6 per ct. cp. R.R. X	Do.	77	80
N. Orleans, 6 per ct. cp. municip. X	Jan'y, July	83	86
Philadelphia, 6 per ct. 1876-'98	Jan'y, July	89¾	90¼
Pittsburgh, 6 per ct. coup. X	Divers	74½	75½
Quincy, 8 per ct. coup. 1868 X	Jan'y, July	----	----
Racine, 7 per ct. coup. 1873 X	10. Feb'y, Aug	----	85
Rochester, 6 per cent. coup. X	Divers	95	100
St. Louis, 6 per ct. coup. Long X	Do.	78	79
Do. do. Municipal. X	Do.	80½	81¼
Sacramento, 10 p.ct. cp. 1862-'74 X	Do.	71	75
S. Fr'cisco, 7 p.c.cp. 1865, pay. N.Y. X	May, Novemb.	----	80
Do. 10 p. ct. cp. 1871 X	Do. do.	----	----
Do. 10 do. pay. N. Y. X	Jan'y, July	----	----
Do. 6 per ct. pay. N.Y. 1875 X	Do. do.	52	57½
Wheeling, 6 per ct. coup. X	Divers	----	67¼
Do. 6 p.ct. cp. Mun. 1874 X	March, Sept.	----	81¼
Zanesville, 7 do. X	April, October	----	97¼

Cincinnati Stock Sales,

BY HEWSON & HOLMES.

For the week ending September 3rd, 1856.

BONDS.

$3,000 Ohio & Miss. 7 per ct. 2nd Mort. 48¼
2,000 Hillsboro' and Cin., 7 per ct. 1st Mort. 45 (& int.)
7,000 Cov. and Lex., 10 per ct. Income. 50 to 55 "
2,500 Do. do. 6 do. do 35 "
1,000 Covingt. & Lex., 7 per ct. 2nd Mortgage 68
1,500 Indiana Central, 10 per ct. Income, due in '58 and '58. 90 to 95
900 Ind. & Cin. 7 per cent Dividend 71
1,000 Ohio and Miss., 7 per cent., 1st Mortg., (six months' interest included) 70
1,260 Little Miami, Dividend Scrip 80
500 Col. & Xenia, 7 per cent ten years Divid. 85

STOCKS.

100 Shares Little Miami 88¾
200 " Ohio & Mississippi 5½ "
50 " Do. do. 6 "
24 " Indianapolis and Cincinnati 58
38 " Marietta and Cincinnati 14 "
71 " Covington and Lexington 14 "
20 " Cin., Ham. and Dayton 65
45 " " " b60d. 68
149 " Cin. & Chicago b6mos 5 "
50 " Mad River and Lake Erie 14
50 " Indiana Central, b90d 50
6 " Clev., Col. & Cin. 100

BY KIRK & CHEEVER.

For the week ending September 2nd, 1856.

BONDS.	Per ct.
Little Miami, 6 per ct. Mort.	80
Covington & Lexington, 2nd Mort. 7 per ct.	65
Ohio & Mississippi, 2nd Mort. 7 per ct. (Eastern Division).	48
Indianap & Cin., 2nd Mort. 7 per ct.	80
Cin., Ham. and Dayton, 2nd Mort. 7 per ct.	82½
Hillsboro' and Cin., 7 per cent. 1st Mortg.	46
Covington & Lexington, 10 per ct Income	64
Indianapolis and Cincinnati Dividend	70
Columbus and Xenia Dividend, due Jan'y 1, 1861	88
Do. do. do. due July 1, 1866.	86
Little Miami, Dividend Scrip, issued June, 1856	79

STOCKS.

Bellefontaine and Indiana, 25.—Cin., Ham. and Dayton, 65.—Col. and Xenia, 82.—Cincinn. and Chic., 3½.—Covington & Lexington, 14.—Dayton & Western, 17.—Eaton and Hamilton, 20.—Indiana Central, 50.—Indianapolis and Cincinnati, 58.—Little Miami, 89.—Mad River & Lake Erie, 15.—Marietta and Cincinnati, 15.—Ohio and Mississippi, 5½.—Hillsboro' and Cincinnati, 15.—Peru and Indianapolis, 14.—Cincinnati, Wilm. and Zanesville, 12.

Extract from De Coppet & Co.'s Money Circular for the European Steamer of the 9th inst.

[TRANSLATED.]

NEW YORK, *Tuesday, Sept.* 8, 1856.

During the two or three days subsequent to our last advices, the inactivity then noticed continued to be felt; since then, without being able to attribute it to any cause in particular, our stock market has experienced some little revival, especially in railroad stocks, the prices of which have generally advanced. The greatest number of this class of securities, which give handsome dividends, are comparatively low, and calculated to attract the attention of investors; and as capitalists return from the country, and the fears respecting the health of the city are lessened as the season advances, it is not unreasonable to anticipate a gradual improvement in their market value, if the money market remains in its present condition.—To the more active demand for money noticed in our last advices, there has succeeded rather more ease. In regard to State stocks, we may observe that the demand for Missouri 6s has continued good through the week, at an advance of ½ per cent. Some moderate transactions took place in Virginia 6s, at ¾ advance, and in Indiana 5s and California 7s, 1875, without material fluctuations. The demand for city bonds continues most limited; we notice only a few retail transactions in Milwaukee 7s and San Francisco 6s, at rather irregular prices. Since the payment of interest on the latter, there is more disposition to deal in them. A very limited business was done in railroad bonds at the Stock Exchange, except in Illinois Central Construction, which were active, at 1⅜ per cent. advance. There were some sales of Erie 7s, 1875, at ½ advance, and of 7s, 1883, at a decline of ¼. At private sale, purchases of some amount, and principally for American account, were done in Milwaukee and Mississippi 1st mortgage on third section; also a few retail sales of Burlington and Missouri railroad 1st mortgage, and Peoria and Oquawka railroad 1st mortgage (Eastern Extension). There was some activity in the following

railroad shares, with an advance on Erie of 2⅝, on Reading 1⅛, on New York Central of ⅞, on Cleveland and Toledo of 2⅝, on Chicago and Rock Island of 1⅛, on Illinois Central of 1⅝, and on Panama of 4⅛ per cent. In other railroad shares very little was done. Money is in steady demand, at 7 for short loans, and for paper at 8 to 11 per cent., according to class and length.

DE COPPET & CO.

Marie & Kanz' Money Circular for the European Steamer of the 9th inst.

[TRANSLATED EXTRACT.]

NEW YORK, *Tuesday*, Sept. 8, 1856.

The week elapsed since our circular of the 2d inst., has been marked by greater activity, and an almost general rise in railroad shares, for which an improved outside demand has manifested itself. State stocks have also been pretty active at an advance on Virginia and Missouri and others at firm prices, but railroad bonds, with the exception of Illinois Central, have remained very quiet, the purchases for foreign account continuing on a very limited scale. Money if changed in any way has been in rather better supply on short loans, while the offerings for discounts at Banks and private bankers have slightly increased, though without causing any material change in rates. Missouri has again been the most active of State stock, advancing ⅛. Virginia rose 1; Louisiana ½; Indiana 5s and California 7s, 1875, have been sold at former rates. In city and county bonds we have no transactions of any importance to notice. The sales of Illinois Central railroad bonds have been large, the closing price showing an advance of 1⅜. Erie 1875 bonds went up 1, while Erie 1883 bonds sold in several small lots at a decline of 1 per cent., New York Central 6 per cent. bonds declined ⅛, and Hudson River 3d mortgage ½. The transactions in railroad shares have been large in Erie, Reading, Cleveland and Toledo, and to a fair extent in the shares of the Western roads. Erie advanced 2; Reading 1⅛; New York Central ¾; Panama 4¼; Michigan Central 1; Michigan Southern 1⅛; Illinois Central 1½; Cleveland and Toledo 2¾; Chicago and Rock Island 1⅜; Cleveland and Pittsburg 1; Galena and Chicago ¾; Milwaukee and Mississippi ½. Money is in good supply on call at 7 per cent. Discount 8a9 per cent. for first class, and 10a12 for paper less known. Exchanges firm with a fair business doing in francs. Sterling, 109⅝a⅞. Paris, 5.17½a5.15.

MARIE & KANZ.

Railroad Statistics of the United States.

The Secretary of the Treasury has prepared the annexed set of "interrogatories," which are to be addressed to "Presidentt of railroad companies," with a view to the compilation of railroad statistics of the United States:

1. What is the corporate name of your company?
2. What is the date of its charter?
3. When was it commenced?
4. When completed? or if not completed, when is it expected to be completed?
5. What are the termini of the main road, and what of the branches?
6. What is the length of the main road, and what of the branches?
7. What is the length of the double track, if any?
8. What was the cost of the road all complete? or the estimated cost if not completed?
9. What is the capital stock paid in?
10. What is the amount of bonds issued?
11. What is the amount of floating debt?
12. What is the aggregate amount of debt?
13. What are the annual receipts.
14. What is the amount of operating expenses, including repairs?
15. What is the annual rate and amount of interest paid?
16. What are the net annual profits?
17. What are the dividends?
18. What number of miles is run by passenger trains per year?
19. What number of miles is run by freight trains per year?
20. What is the number of through passengers for the year?
21. What is the number of way passengers for the year?
22. What is the number of tons of through freight for the year?
23. What is the number of tons of way freight for the year?
24. What is the mileage of the passengers carried during the year, or the equivalent number of passengers carried one mile?
25. What is the mileage of the tons of freight carried during the year, or the equivalent number of tons of freight carried one mile?
26. What is the average speed of passenger trains?
27. What is the average speed of freight trains?
28. What number of casualties for the year were fatal?
29. What number of casualities for the year were not fatal?

The Secretary requests that the answers to these interrogatories may be given from the last annual report of each company, with the date of the report; that the may be inserted in the bank left opposite to each interrogatory; and that the inetrrogatories, so answered, may be returned to the department at the earliest period practicable. When the compilation is completed and printed, it is the intention of the Secretary to send a copy to each President, partly to requite the favor solicited and partly to disseminate the information collected and combined.

American Railroad Journal.

Saturday, September 13, 1856.

The Late Accident on the New York Central Railroad.

An accident occurred on the 5th inst., on the New York Central railroad, near Port Byron, by which six men almost instantly lost their lives. A cattle train standing on the track was run into by a passenger train. The shock broke the supply pipe of the engine, and the escape steam enveloping six cattle drovers in the last car of the cattle train, literally scalded them to death.

The alleged cause of the accident was the *misplacement* of the *switch*. The passenger train was said to be running at the rate of about eight miles an hour. It was probably running at a faster rate, or its mementum could have been checked previous to the collision.

The misplacement of the switch though a sufficient cause of censure to the party in charge of it, should not be taken as any excuse or apology for the accident; and proper regulations on the part of the company would have prevented it, had the switch been out of place. On entering a station where the train is to halt, the Engineer should have his train so far under his control as to be able to bring it instantly to a stand. The penalty for running into a train, or for running the train off from misplacement of the switch on the Erie railroad, is invariably punished by dismissal of the Engineer. The rule prescribed to him, is to run his train in such a manner as would insure safety should the track belonging to him at the station be occupied, and should every switch connected with it be misplaced. He is told to have his train entirely under control. And also that the switchman is placed at the switch or turn-out for his convenience, and not, as far as the Engineer is concerned, to secure the safety of the train. In this way, and in no other *way*, can safety and freedom from accidents be secured. To prescribe a rate of speed would not meet the case, as there is no way of measuring speed. But when the Engineer understands that he is responsible for accidents of the class named, he will be always vigilant, and always have his train under control.

It was the proscription of the above rule, among others equally salutary, that led to the strike among the Engineers, soon after Mr. McCallum took charge of the road. It was rigidly enforced, however, and it is now regarded as an excellent one by the Engineers themselves; and has doubtless saved the company numberless accidents, which would have involved heavy losses both of life and property. We should suppose it would be adopted by every railroad company.

Cleveland, Painesville and Ashtabula R. R

At the annual meeting of the Directors of this railroad, held on Wednesday, August 27th, the following gentlemen were elected to fill the offices noted:

President—WILLIAM CASE.
Secretary and Treasurer—G. B. ELY.
Superintendent—H. NOTTINGHAM.
Chief Engineer—WM. BECKWITH.
Directors—Messrs. Wm. Case, H. B. Payne, A. Stone, jr., W. D. Beattie, A. Kelley, J. B. Johnson, Charles Hickox, T. M. Kelley, S. Witt, D. R. Paige, T. P. Case, S. G. Randall, and James Milner.

Bridging the Ohio.

Another stupendous mechanical undertaking is about being inaugurated at Cincinnati. The people of that enterprizing region are moving in earnest towards erecting a bridge across the Ohio, to connect Cincinnati and Covington. Proposals are invited for laying the abutments, and the construction of an immense suspension bridge is to be immediately proceeded with. The stock has all been paid in. The bridge will not, so it is said, interfere in the least with river navigation. The arches are to be fully sixty feet above high water mark, thus allowing the tallest chimneys of boats to pass beneath it without the slightest trouble.

Insurance upon Railroad Property.

We give, in another column, an advertisement by the Liverpool and London Fire Insurance Company, which propose to make risks upon railroad property, such as depots, station and engine houses, machine shops, running furniture of all kinds, bridges and all kinds of combustible structures, a permanent and important branch of their business. This company has a paid-up capital of $10,000,000, with a reserve, or surplus fund of $3,500,000. As an additional security, the insured have the personal liability of the stockholders. The Directors in this city are JAMES BROWN, MORTIMER LIVINGSTON, WILLIAM S. WETMORE, FRANCIS COTTENET, GEORGE BARCLAY, JOREPH GAILLARD, ALEXANDER HAMILTON, jr., ED. F. SANDERSON, JOSEPH FOWLER, JOHN H. HICKS, ALFRED PELL, and EUGENE DUTILH. The Directors in New Orleans are: FREDERIC RODEWALD, AMBROSE LANFEAR, JOHN C. B. YUILLE, H. V. OGDEN, and THOMAS BYRNE. Many of the above gentlmen are large shareholders in the company, and the whole compose a list of our most respectable and substantial citizens.

Railroad companies have often greater reason for insuring perishable property, than private individuals. Independent of risk of loss, a small

sum annually will insure regular dividends to stockholders, which are now often interfered with by heavy losses from fire. Every railroad should keep a portion at least of its perishable property insured. An excellent opportunity is now afforded in a company of the highest respectability and of ample means.

Ohio and Mississippi Railroad--Illinois Division.

Two parties claim the right to control this road; one headed by H. D. Bacon, and the other by the city and county of St. Louis. An election of Directors has been recently held by each. The following is the Bacon list of Directors—

Samuel Gaty, Daniel R. Garrison, H. D. Bacon, Geo. Partridge, Wyllys King, Stephen M. Edgell, Samuel R. Wilson, Wm. H. Belcher, Thos. L. Salisbury, Aaron Shaw, of Illinois.

This Board has been organized by the choice of the following officers:

Henry D. Bacon, President; Daniel R. Garrison, Vice President; Geo. K. McGunnegle, Secretary; Aaron Shaw, Councellor.

The rival list of Directors is as follows:

Gerard B. Allen, Henry T. Blow, Andrew Christy, John O'Fallon, John Hartnett, A. H. Hackney, Jas. Harrison, John How, W. M. Morrison, Wm. Palm.

Railroad Earnings.

The receipts of the Galena and Chicago railroad for August were as follows:

August 1856	$250,693.82
August 1855	210,066.23
Increase	$46,067.59

The Little Miami and Columbus and Xenia roads show the following comparative earnings for the three months—ending Sept. 1:

	1855.	1855.	Increase.
June	$90,063	$75,579	$14,483
July	93,352	63,896	24,455
Augusr	111,369	86,946	23,422
Total	$294,785	$231,422	$63,360

The earnings in August show an increase of 28 per cent. These two roads are worked as one line.

The following statement of the Cumberland Valley Railroad Company exhibits the comparative receipts for August this and last year:

	1855.	1856.
Passengers	$6,408.39	$8,847.36
Freight	5,803.22	7,886.75
Mails	433.33	433.33
Total	$12,644.94	$16,667.44
Increase		$4,022.50

The earnings of the Michigan Central road for the month of August, 1856, were:

	Pass'grs.	Freight.	Miscl's.	Total.
1856	$146,826	$112,021	$6,802	$265,649
1855	125,643	69,915	7,049	202,607
Inc..	$21,182	$42,106	.....	$63,042
Dec.	.....	.....	$247	.....

The following is a comparative statement of the traffic receipts on the Chicago and Burlington Railroad for the month of August, 1856, as compared with the same month last year:

	Freights.	Pass'grs.	Miscl's.	Total.
Aug. 1856..	$195,632	$46,795	$2,544	$244,972
Aug. 1855..	100,003	39,456	1,389	148,849
Gain in '59..	$95,629	$7,339	$1,155	$104,123

The proportions of earnings for August by each road composing the line are as follows:

	Freghts.	Pass'grs.	Miscl's.	Total.
C. & C. Union..	$26,068	$4,241	———	$30,308
C. B. & Q'cy..	162,133	36,561	$2,090	200,784
Peo. & Oqu'ka.	7,432	5,993	454	13,880
Total....	$195,633	$46,795	$2,514	$244,972

Length of line 210 miles.

The revenue for August of the Baltimore and Ohio has been as follows:

	Main Stem.	Wash'n Branch.	Total for both roads.
For pass'grs...	$67,844.18	$30,181.80	$98,025.98
For freight....	330,441.70	9,466.12	339,907.82
	$398,285.88	$39,647.92	$437,933.80

On a comparison with the corresponding month of last year we have the following gratifying result:

Main Stem.

	Pass'grs.	Freight.
August, 1856....	$67,844,18	$330,441.70
August, 1855....	58,120.26	257,529.49
Increase....	$9,723.92	Increase. $72,912.21

Washington Branch

	Pass'grs.	Freight.
August, 1856....	$30,181.80	$9,466.12
August, 1855....	27,168.93	9,005.52
Increse.....	$3,012.87	$460.60

From the above comparison it will be seen that there has been an increase of $86,109.60 in the gross receipts over those of the corresponding month last year. There has been an increase in the receipts in every department of the road; on freight on the main stem the increase is $72,912.-21, and on passengers, $9,723.92, on freight on the Washington Branch the increase is $460.60, and $3,012.87 on passengers.

	1855.	1854.
October..	$423,436.84	$359,610.52
November	399,119.40	347,677.96
December	441.815.61	293,014.16
	1856.	1855.
January	$191,809.81	$370,211.93
February	211,513.76	216,299.49
March	405,820.39	370,455.02
April..	551,811.28	368,202.84
May	479,318.25	385,358.14
June	438,788.26	371,783.84
July	417,971.97	301,909.21
August	437,933.92	351,824.20
	$4,399,339.49	$3,735,347.31
	3,735,347.31	
Increase	$663,992.18	

The earnings of the Milwaukee and Mississippi railroad for the month of August, 1856, are $56,309
Corresponding month of last year 55,095
Increase $1,204

The receipts of the Morris Canal were:

Total to August 30, 1856		$189,481 38
Week ending September 6, 1856		11,952 88
		$201,434 26
Total to Sept. 1, 1855...	$182,348 58	
Week ending Sept. 8th, 1855	7,292 43	
		189,641 01
Increase, in 1856		$11,793 25

The following is a statem ent of the net earnings of the Pennsylvania railroad for six months, ending July 1st, 1856, compared with corresponding periods for 1854 and 1855:

	1856.	1855.	1854.
January	$295,947	$293,004	$275,192
February	302,651	187,710	297,657
March	513,217	374,378	475,496
April	601,119	343,619	313,889
May	451,372	416,720	294,224
June	345,613	304,701	223,863
Total	$2,509,922	$1,820,135	$1,880,324
Expenses	1,866,223	992,952	986,974
Net income	$1,143,698	$827,183	$893,350
Capital stock			$12,400,000
Funded debt, 6 per cents			7,570,000
Total, including $1,450,000 to other roads			$19,970,000
Net income, 6 mos., as above			1,143,698
3 per ct. interest on debt		$227,100	
4 per ct. on stock		496,000—	723,100
Leaving to contingencies			$420,598

The net earnings of the road, after providing for the funded interest for the six months, are equal to about 7½ per cent. on the stock, of which 4 per cent. was paid out in cash as the half yearly dividend. Previous to this year the policy of paying simple interest on the stock, 6 per cent. a year, had been pursued from the foundation of the enterprise.

The earnings of the Cleveland, Columbus and Cincinnati road for August were:

Passengers	$46,840 49
Freight, &c.	80,702 83
Total	$127,543 32
August, 1855	113,408 41
Increase	$14,134 91

North-Western (Va.) Railroad.

This road has been completed to Clarksberg, Va., a distance of 22 miles from Grafton, the eastern terminus. The work of laying the rails to that place, was finished by the contractors on Saturday last, when the "iron horse" entered the town amidst the peal of cannon, and the enthusiastic shouts of a large assemblage of ladies and gentlemen, who subsequently during the evening invited the contractors and their workmen to partake of a handsome collation. The citizens are anxiously expecting a passenger car to be placed on the road to connect with the Baltimore train at Grafton. The work of laying the track on the Parksrsburg end of the road, is in rapid progress, and there is said to be a fine prospect of the entire work being finished in about sixty days.

Peterboro' and Shirley Railroad.

The annual meeting of this company was held on Wednesday, the 3rd inst. The Directors made their tenth annual report. The actual cost of the road up to the present time is $265,268 81. The capital stock of the company when the balance of No. 4 is converted into stock will amount to $265,000. The Directors have procured a lease of the New Hampshire road for five years from July 1st, 1855, and have leased the same to the Fitchburg railroad for three years and nine months from the 1st of April, 1856, for the sum of $3,500 per year, and they are to run two trains of cars per day each way, and also keep the road in good repair.

The amount of bonds now outstanding against the company which have been given for the purchase of the debts of the New Hampshire road is $40,000, and the amount of notes is $2,600. The earnings of the year have been $18,868 80, and total credit of the road with the Treasurer, for the year ending Sept. 1st, was $38,367 57. About $8,500 has been paid out during the year in dividends.

The expenses are trifling, the road being run by the Fitchburg road. The repairs of the New Hampshire road cost $1,795 09; the expenses of do. $839 25. The report was accepted, and the following Board of Directors chosen, Mr. C. B. Barrett taking the place of Mr. Charles Powers, a Director last year:

J. M. Maynard, Geo. Barrett, Daniel Adams, Walter Fessenden, F. A. Worcester, Levi W. Woods, J. H. Walker, C. B. Barret, Geo. Taft.

London and Port Stanley Railroad.

That portion of this road lying between Port Stanley and St. Thomas has been opened for traffic. The whole line will be shortly completed.

Reading Railroad.

The Philadelphia *Ledger*, of the 6th inst., gives the following relative to the earnings of the Reading Railroad:

The following tabular statement shows the business of the Philadelphia and Reading Railroad Company, as compared with last year:

Received from coal....	$307,963.80	$355,724.75
" " m'd's'e..	24,365.30	21,514.17
" " travel,&c.	31,279.21	31,036.28
Total....	$363,498.31	$408,275.20
Transportation, roadway, dumpage, renewal fund, and all charges	$173,760.71	$162,989.89
Net profit for the month.	$184,737.60	$245,285.30
" for previous 7 months....	882,745.13	1,189,292,89
Total net profit for 8 months....	$1,067,482.73	1,434,578.20

It will be seen from the above account current for the month of July, that while the receipts of the road have fallen off $44,777, the renewal fund charges, &c., have increased $15,770; the total net profits of the month being only $184,737, against the profits of July last year. For the eight months of the current year the net profits it will be seen, are $367,095 less than the net profits to the corresponding time last year. Should the falling off to the end of the year continue at the same rate, the decline will exceed half a million of dollars.

London and Grand Trunk Junction Co.

On Saturday the first meeting of the above company was held at the Robinson Hall in pursuance with the published notice. Among those present were the Mayor, John Wilson, M. P., Thos. Galt, W. W. Street, John Carling, P. Schram, L. Lawrason, J. Shanley, H. C. R. Becher, E. F. Whittemore, John Crawford, &c. On motion being made the Mayor took the chair, and Mr. Galt acted as Secretary. After Messrs. Schram and Street had been appointed scrutineers the ballot for Directors was taken, which resulted as follows:—

Hon. John Ross, John Wilson, M. P. P., L. Lawrason, H. C. R. Becher, James Shanley, jr., Wm. Barker, Lionel Ridout, Lewis Moffat, John Crawford, E. F. Whittemore, and Thomas Galt.

It will be seen from the above list that London is fully represented. After the election of the Directors they proceeded to business.

The Directors then held their first regular meeting, at which the Hon. John Ross was appointed President, and Mr. John Wilson, M. P. P., Vice President of the Company. Preliminaries having thus been arranged the matter of the contract next came up. It was thought proper to award it to Messrs. Gzowski & Co., for the sum of £8000 sterl. per mile, including the right of way and rolling stock. The road is now, therefore, under contract to be built, and the contract provides for its being placed in running order by the first of January, 1858. In the meantime, as a precautionary measure, Messrs. Gzowski will pay the interest on the capital till the road is completed. We may mention further that the locomotive has penetrated as far as Stratford, and that the road will be opened in a month to within about two miles to St. Mary's, to a point beyond which the work has not been graded, owing to the delay necessary to the organization of the present company.—*London (Canada) Free Press.*

Trade and Commerce of New Orleans.

The New Orleans *Price Current* of September 1st, gives the following review of the trade and commerce of that port for the commercial year ending that date:

The extent of the season's operations, and the magnitude of our trade, are partially indicated by the value of our products received from the interior, and which amounts, according to our annual valuation table, to $144,256,081, against $117,106,828 last year, and $45,716,045 in 1841-42. This would seem to show a very fair ratio of increase for our much abused city, considering the extensive diversions of the products of the West into other channels, and also the fact that the last sugar crop was more than 200,000 hogsheads short of the maximum product of 1853. This increase in the value of our trade, however, large as it is, is not as great as it should have been, and would have been, had the railroad enterprises which are now in progress been earlier entered upon and more liberally aided by those having capital at command. We trust, however, that this supineness will soon yield to a conviction of the necessity of more energetic action, and that the speedy completion of the Opelousas and Texas, the Jackson and Great Northern and the Mississippi and Red River railroads, and also the Tehuantepec route, will ere long add their contributions to the advancement of our city's prosperity.

According to the Custom House records the total value of exports of produce and merchandise of the growth and manufacture of the United States, for the fiscal year ending June 30th, was $110,358,436, against $83,120,218 last year; showing an increase of $27,233,218, or over 30 per cent. The value of foreign merchandise and specie imported in the same period was $17,183,327, against $12,923,608 last year, showing an increase of $5,259,719, or about 37½ per cent. Of the value of the hundreds of cargoes of domestic and foreign merchandise and produce imported coastwise, there is no record, (though there should be by requirement of law), but we estimate that the value of property, including produce, merchandise and vessels, that has passed the mouth of the Mississippi river inward and outward, during the past year, probably exceeds two hundred and fifty million of dollars.

The operations of the Branch mint during the past year shows a further slight decrease in the deposits, but an increase in the coinage. The total deposits of gold and silver for the year ending 31st of July, were $2,720,032, against $2,938,260 the year previous; showing a decrease of $218,238 The coinage during the same time has been, of gold, 67,350 pieces of the value of $525,500, and of silver, 8,364,000 pieces, of the value of $2,936,000. Total value, $3,461,500, or an increase of $1,255,240.

With respect to the market prospects of the coming crops, and the interests of trade generally, we conceive that the promise is in a high degree flattering. Peace again prevails throughout the leading nations of the world, and commerce and the arts have asserted their ascendancy in questions of threatening aspect. Of the crops, those of wheat and Indian corn are known to be unusually abundant, and cotton, thus far, gives fair promise; but the sugar production must inevitably fall to a very low figure, while that of tobacco will be materially less than the crop of last year. With money unusually abundant, and readily obtainable for all legitimate purposes, all these crops are likely to meet with a ready market, at remunerating prices, and the cost of transportation to other markets will probably range below the average of last year, as a large amount of tonnage will be relieved from the employment of the Allies.

Inundations in France.--The River Rhone.

The inundations which have just caused such extensive calamities in the departments of the south naturally direct attention to the questions connected with the hydrography of some of the great rivers of France. The Rhone which stands in the first rank, rises in Switzerland at the foot of Mont Furca, in the canton of the Valais, the whole of which it traverses. It has its rise from three different springs, and forms for itself a very irregular bed among rocks and innumerable glaciers. It afterwards falls over an immense precipice near the Chapel St. Nicholas into the small plain of Oberwald, where it receives several tributary streams. From its source as far as Martigny, a town situated at the commencement of the Great St. Bernard road, and which was almost entirely destroyed by the terrible inundation of 1818, the Rhone follows a south-western course. At a short distance from Martigny it suddenly turns to the north-west, and after passing through a narrow gorge throws itself by two branches into the Lake of Geneva, and at about 12 miles further on enters the French territory near the Fort de l'Ecluse, and forms the frontier between France and Savoy. The river, in ordinary times, is not more than 12 feet wide at Oberwald. Above the Lake of Geneva it is 150 yards wide. On leaving the lake, and at its confluence with the Arve, it is 88 yards wide; and on entering France, 175 yards. From its source to the Fort de l'Ecluse its fall is 1,496 yards. The Rhone after quitting Switzerland, runs towards Lyons, and on passing through the Lake of Geneva is hemmed in on its right bank as far as below Ceysarien, by the slopes of the Jura, and on the left bank as far as its confluence with the Uches by the Montagnes aux Vaches in Savoy. Between l'Ecluse and Genisseat it runs through a narrow defile about 12 miles in length. After Genisseat, the mountains retire from the banks of the river until near Vienne, where they again approach it, and continue so until its confluence with the Ardeche on the right, and the Durance on the left. After this the banks become lower. The Rhone falls into the Mediterranean after a total course of 825 kilometres (about 515 miles.) Its principal tributaries on the right bank are the Ain, the Saone, the Ardeche, the Ceze, and the Gard; and on the left the Guier, the Isere, and the Durance.

The Saone, one of the largest rivers in France, rises in the department of Vosges, in the arondissement of Mirecourt. It traverses the departments of the Haute-Saone, the Cote d'Or, and Soone et Loire, separates those of the Rhone and Ain, and falls into the Rhone at Lyons, after a course of about 280 miles. As far as its confluence with the Oignon, it runs through a narrow valley; it becomes navigable below Gray, and at about this point the situation of the country changes; the valley widens on its left bank, while on the right it is skirted by the slopes of the mountains of the Cotes d'Or, and of the Charolais. The principal affluents of the Saone are the Doubs and Oignon on the left, and the Ouche and the Azergne on the right. The question of the overflow of the Rhone and the Saone has for a long time occupied serious attention. Without entering into the causes, which may be derived from the laws of terrestial philosophy, it is interesting to know the opinion on this subject of Vauban, one of the most celebrated men that France ever possessed. This superior engineer, on being consulted by Louis XIV, on the question of the overflow of rivers, gave it as his opinion that the most effectual means to prevent the recurrence of inundations was to always keep in a good state the depth and width of the beds of rivers and streams. Colbert profited by this idea, and some years after issued an edict which obliged governors of provinces to keep the beds of rivers and streams perfectly clear and in good order, and there still exists a celebrated decree issued by the Parliament of Dijon in 1698, which condemned the administration of the rivers and forests of Burgundy to a fine of 6,000 crowns for the benefit of the hospitals, for having neglected to clear out the bed of the Saone, and for hav-

ing allowed it to get narrower in some places.—These facts now possess great interest, and it would be curious to ascertain whether, since the end of the eighteenth century, the narrowing of the beds of rivers has not had a very powerful influence in causing the repeated inundations.

The Tehuantepec Enterprise.

Col. Wm. J. Smith, contractor for building the Tehuantepec road, has arrived at New Orleans.—He is on his way to the North, to make arrangements for the final opening of the road from sea to sea, by the first of December next. There are thirty miles already completed, and the remainder will be completed for the reception of stock by the first of November. Travelers and their baggage will be transported across the Isthmus in 18 hours. A thousand men are at work on the road, the whole distance of which is one hundred and eleven miles. The *Picayune* says:

"Some of our citizens, who may remain away until December, will, on reaching home, find that they are within reach of the Pacific coast in four days from New Orleans, and of San Francisco in ten or eleven. A steamboat from New Orleans will land them on the third day in the Coatzacoalos; and the next day will find them on their way up the western coast of the continent, and six or seven days will land them in San Francisco. It will be a great event for the country, and particularly for this city, and will work a vast change in the routes of communication between the Atlantic and Pacific States."

Collision on the Central Railroad--Six Men Killed.

A sad accident occurred about 10 o'clock last night, on the Central railroad, near Port Byron, by which six men were scalded to death. In accordance with the direction of the Superintendent, a cattle train was standing on the straight track, waiting for the arrival of the 5 o'clock passenger train, which ought to have entered the depot on the turn out; but by negligence or inattention of the switch tender, who neglected to turn the switch, the locomotive ran into the cattle train.—The passenger train was going at the rate of eight miles an hour when the engineer discovered the neglect of the switch-tender, when he immediately gave the signal to break up. He reversed the engine, and did all in his power to prevent a collision.

The locomotive when it struck the train threw the last car, containing six drivers, off the track and upon the boiler. By the collision the supply pipe was broken, and before the men in the car could be extricated, they were literally scalded to death. Three were taken out of the car dead, and the others survived but a short time.

We learn from Dr. Breck of Springfield, Mass., who was on the train, and who remained there hours, in attending upon and doing all he could for the sufferers, that it was an awful sight. He was the first person who came to the assistance of the drovers. Being told that it was a cattle train, he did not expect to see any person in the car, but upon looking up he discovered a person attempting to open a window. With a bar of iron he broke in the door and assisted in getting the men out. All his efforts to save them proved unavailing, for five had died before he left, and the sixth person was gasping, and could not live more than an hour.

We obtained from him the following list of the dead:

J. L. Bissel, of Madison, Lake county, Ohio.
W. A. Wilson, of Benton county, Kentucky.
Wm. Smith, of Cleveland, Ohio.
Edward Taylor, of Palatine, Pickaway county, Ohio.
Robert Boaz, Carlisle, Kentucky.

The engineer and some of the brakemen, after doing all that they could, and finding a collision inevitable, leaped from the train and were uninjured. Several of the platforms on the cars of the passenger train were broken, but none of the passengers were injured. The calamity is wholly attributed to the carelessness of the switch-tender, who neglected to turn the switch.—*Albany Journal, Sept. 6th.*

Passenger Coal Burning Engines.

It has long been a great desideratum on the Reading as well as other important railways of the country, to obtain engines that will consume anthracite coal, and yet make as good time as wood burners. The "Taunton," a Massachusetts engine, placed on the Reading road, about a year since, as a coal burner, was not a complete success, although her performance at times was satisfactory, and as a running engine, she was delightful. Another coal burner, the "Excelsior," was completed last spring, by Norris & Son, of Philadelphia. So far her performance has been satisfactory. The builders claim that she will consume her coal and gas perfectly; that the smoke stack shall remain free from smoke, cinders and coals, under any pressure of steam which the engine may be made to bear; that she will run regularly at the highest rates of speed allowed on roads; that she will burn with one-third less draft than any coal engine hitherto built; that she wastes no coal, and will run at one-third less cost than the common boiler engine; that her furnace requires no raking whatever while on the road; that the coal will burn evenly and steadily over every part of the furnace; that she requires no superior skill in her management, but that any engineer and fireman competent to run a wood engine can safely manage her; that her boilers will last the average time of wood boilers, and that the wear and tear on all parts of the machinery, from a superior steadiness in her running, will be less than upon locomotives of different construction. If, indeed, the Messrs. Norris have succeeded in "the Phleger Coal Burner," the traveling public as well as the company may congratulate themselves. It is the pleasantest engine one can ride behind, and the most economical in point of consumption of fuel. —*Pottsville Journal.*

Jackson and Carrollton Railroad.

We learn from the Alton *Courier* that the Hon. D. M. Woodson, President of the Jacksonville and Carrollton Railroad, has perfected arrangements with H. Spencer, Esq., the lessee of the Chicago and Alton Railroad, for a connection with and use of a portion of that road, between Monticello and Alton. This arrangement will enable the company to put their line into operation at much less cost than if they had to lay down a track of their own. The counties along that portion of the line yet to be built have subscribed nearly $500,000.

Cattawissa Railroad.

William D. Lewis, Esq., President of the Catawissa Railroad Company, has resigned. Mr. Lewis was a prompt and efficient officer, and had become so closely identified and interwoven with the Cattawissa road, before this community, that the name of the President and the company were twin thoughts, till sundered by the act of resigna tion.

The Cattawissa Railroad was constructed and opened throughout its whole length, under the administration of Mr. Lewis, who gave it, at all times, watchful attention and valuable service.

Mr. Lewis resigns a post in which he has evinced zeal, acquired honor, and given satisfaction, with a view, as it is understood, of withdrawing, altogether, from active official business.

Thomas Kimber, Jr., Esq., President of the Williamsport and Elmira Railroad Company, was invited by the directors of the Cattawissa Railroad Company, to accept the presidency vacated by Mr. Lewis, and has accepted. The two roads, therefore, under one executive organization, will be practically though not technically, hereafter under one management. And Mr. Kimber having heretofore evinced great industry and perseverence in the management and development of the road between the West branch and the Chemung rivers, will henceforth have a larger field for the play of his executive abilities, in the management of two roads, between the Schuylkill and the Chemung rivers.—*Penn. R. R. and Mining Register.*

Baltimore Work for the South.

Messrs. A. & W. Denmead & Son have just finished and had conveyed on board the Steamship City of Savannah, which sailed this morning for Savannah, three large steam boilers, their capacity in the aggregate being one hundred horse power. They were built for Mr. Edward Denmead, in Savannah, Georgia, and are intended to be used in a large flour mill which he is now having erected in the heart of the city, immediately on the line of the railroad. A very handsome engine has also been forwarded, capable of working off any amount of steam made by the three boilers, in fact, all the necessary machinery for running a large flouring mill has been manufactured or sent from this city. The burrs, four in number, were the best French article, and were ordered from a house here. Throughout the whole of the immense establishment of the Messrs. Denmead, to whatever point the eye rests, workmen are busy, the firm having as many orders on hand as they can attend to, and have been forced to relinquish a large order for cars, in consequence of their inability to furnish them forthwith.—*Balt. Patriot.*

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NOTICE.

WHEREAS a certain J. R. HILLIARD has obtained from the Patent Office a Patent for a certain RAIL JOINT, formed and constructed upon a principle altogether new; (the said Joint being applicable also to carpentry, and generally wherever a strong, compact and *self-sustaining* joint is desirable) and whereas the said principle is my invention, and my intention is to test the validity of the said Patent: I, T. BRIGGS SMITH, do hereby give this public caution, in order that no person or party may unknowingly and innocently subject himself to the legal consequences of an infringement of my right, by using my said invention or otherwise.

T. BRIGGS SMITH.
NEW YORK, September 3d, 1850. 1t37*

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700 TONS "Erie" pattern, 57 to 58 lbs. weight per yard, now in port, on ship board. For sale by
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TWO first class Locomotives, 22 and 25 tons. 4 feet 8½ in and 4 ft. 10 in. gauge.
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NEW YORK, August 27th, 1856.

Covington and Cincinnati BRIDGE.

PROPOSALS will be received between the 10th day of September and the 1st day of October, 1856, at the office of the Covington and Cincinnati Bridge Company, at Covington, Ky., for the cutting of stone and laying of 30,000 perch of masonry in the towers, anchorage, and abutments of the Covington and Cincinnati Suspension Bridge. All materials will be delivered by the Company. None need apply but experienced mechanics, who will superintend the work in person and without sub letting. Also proposals received for the foundation of the towers The work is to be commenced forthwith. Plans and specifications to be seen at the office after the 10th day of September. RICHARD A. RANSON, President.
JOHN A. ROEBLING, Engineer. 3t36

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1,000 TONS best quality Welsh Rails, "*Erie*" pattern, 58 lbs. per yard, for sale by
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Brooklyn Water Works.
NOTICE TO MACHINISTS.

SEALED PROPOSALS will be received at the office of the undersigned until the 1st of October at noon, for the construction of two Pumping Engines, Cornish or equal to Cornish, for the Brooklyn Water Works, of capacity to raise Ten Millions (N. Y.) gallons daily each, 170 feet high, with three boilers each, to be built and erected complete on the stone foundations prepared for them, and to be of first class workmanship.

Drawings in detail accurately defining the style and character of engines and appurtenances to be submitted by the proposers, with description.

Specifications and further information may be had, at the office of the Chief Engineer, J. P. KIRKWOOD Esq., No. 4 Halsey's Buildings, Brooklyn, or of the undersigned.

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SALE OF THE Syracuse & Binghamton R.R.

SUPREME COURT.—David Hoadley & Horace White, Trustees for the First Mortgage Bondholders of the Syracuse and Binghamton Railroad Company, against the Syracuse and Binghamton Railroad Company and others.

In pursuance of a judgment of foreclosure and sale, entered in this action on the first day of August, 1856, there will be sold by me, or under my direction, at the Syracuse House, in the city of Syracuse, on the 20th day of September, 1856, at 10 o'clock in the forenoon, "All and singular the corporate property and franchises of the said Syracuse and Binghamton Railroad Company, consisting of all the lands, tracks, lines, rails, bridges, ways, buildings, piers and wharfs, erections, fences, walls, fixtures, privileges, franchises, rights and real estate whatsoever, and all the tolls, income, issues and profits to be had from the same, and all the railway depots or stations, with the buildings thereon, together with all the locomotives, tenders, cars, carriages, tools and machinery owned by said Syracuse and Binghamton Railroad Company, or any way belonging or appertaining to said road and used thereon, between the city of Syracuse and village of Binghamton, including 13 locomotive engines, tenders and fixtures, 10 locomotive lamps, 10 first class passenger cars, 3 second class passenger cars, 2 mail baggage and express cars, 3 baggage cars, with stoves and lamps in each, 80 box cars, 34 platform cars, 40 gravel cars, 8 hand cars, 1 large snow plow; also one stationary engine and boiler, 2 lathes, 1 wheel press, 1 upright drill, 40 feet line shafting, 8 bands and pullies for same, 3 forges and bellows, 3 anvils and all the tools in the shop at Syracuse, and along the line of said road, and materials on hand for repairs and use of said road; also, 80 tons of iron rails, 20 tons of railroad chairs, 10 tons of rail spikes, 16 frogs, 8,000 cords of wood at various points along the line of said road, 12 hand trucks, 8 platform scales, 19 stoves, and all the furniture, books and blanks at the several stations and buildings along the line of said road; 120 lamps of various kinds, in use on trains, at stations, shops, and switches along the line of said road; also, the office furniture, consisting of two large desks, two tables and cases of pigeon holes, 3 iron safes, one draughting table, one case of drawers, 4 stoves, one ticket case and tickets in same, one regulator, sundry blanks, blank books and stationery for use of said Company."

A more complete inventory of property and description of premises to be sold, together with the maps and profiles, will be exhibited on the day of sale, and also the terms of sale will then and there be made known. Dated August 4th, 1856.
B. DAVIS NOXON, Referee.
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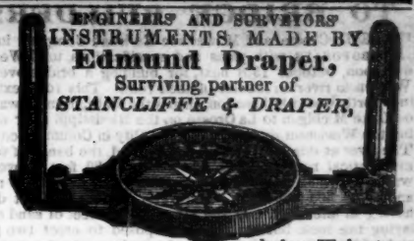

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On and after *Thursday, August* 7, 1856, and until further notice,

PASSENGER TRAINS

will leave Pier foot of Duane street, as follows, viz:—

BUFFALO EXPRESS, at 6 a.m., for Buffalo.

DUNKIRK EXPRESS, at 6 a.m. for Dunkirk.

MAIL, at 8¼ a.m. for Dunkirk and Buffalo, and intermediate stations.—Passengers by this train will remain over night at Owego, and proceed the next morning.

CHICAGO EXPRESS, at 1 p. m. for Dunkirk.

ROCKLAND PASSENGER, at 3½ p. m., (from foot of Chambers st.) via Piermont, for Suffern's and intermediate stations.

WAY PASSENGER, at 4 p.m., for Newburgh and Middletown and intermediate stations.

NIGHT EXPRESS, at 5 p.m. for Dunkirk and Buffalo.

EMIGRANT, at 6 p.m., for Dunkirk and Buffalo and intermediate stations.

The above trains run daily, Sundays excepted.

These Express Trains connect at Elmira, with the Elmira, Canandaigua and Niagara Falls Railroad, for Niagara Falls; at Binghamton with the Syracuse and Binghamton Railroad, for Syracuse; at Corning with Buffalo, Corning and New York Railroad, for Rochester; at Great Bend with Delaware, Lackawanna and Western Railroad, for Scranton; at Buffalo and Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Toledo, Detroit, Chicago, etc.,

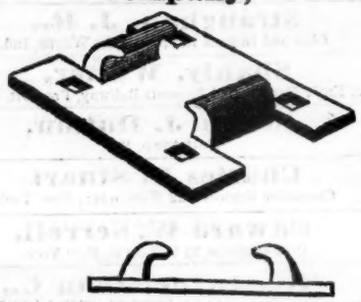
D. C. McCALLUM, General Sup't.

Augustus Schwaab,

CIVIL ENGINEER, MACON, GEORGIA,

IS prepared to execute work in all the branches of his profession; all kinds of surveys, railroad surveys and locations, plans, estimates, topographical maps and reports for same, surveys of plantations and swamp lands, and designs and estimates for drainage of lands, water works and river improvements. All kinds of contract work measured and reported in detail; plans and specifications furnished for bridges, private and public buildings. He has held responsible situations on the construction of Georgia railroads for the last seven years, and has given his attention to all the details of railroad construction, from the surveys to the erection of the largest depots and workshops, which gives him great facility to furnish railroad companies with reliable and practical designs of any kind they may want, and if required to superintend the execution of them. The best references and recommendations can be produced.

NEW YORK
Wrought Iron Railroad Chair Company,



THIS Company is prepared to receive orders for the manufacture of *Wrought Iron Railroad Chairs* of the best material, on a new and superior model, and by improved patented machinery.

The thickness of the Lips of the Chair increases through the bend, where the greatest strength is required, and diminishes towards the edge;—so that a less weight of metal may be used and a strength required equal, if not superior, to that of a heavier Chair of uniform thickness.

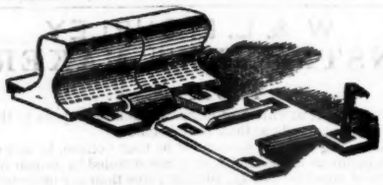
Our arrangements are now complete for executing work promptly, and all orders from responsible parties will be filled on short notice.

These chairs are used by the following companies:

Virginia Central R. R. Co.,
New Orleans Opelousas and Great Western R. R. Co.,
Black River and Utica R. R. Co.,
Cheraw and Darlington R. R. Co.,
Washington and Saratoga R. R. Co.
Mississippi Central R. R. Co.,
Long Island R. R. Co.,
Illinois Central R. R. Co., &c., &c.

Address JACOB ROWE, *President,*
8 Broadway corner Beaver st., opposite the Bowling Green
NEW YORK.

RAILROAD SPIKES.



WROUGHT IRON

Chairs and Fastenings.

THE CALVERT IRON & NAIL WORKS continue to manufacture with increased facilities, HOOK & FLAT HEAD RAILROAD SPIKES, and WROUGHT CHAIRS and FASTENINGS of all patterns, also CUT NAILS, BOILER RIVETS, BOLTS, SHIP and BOAT SPIKES.

Long experience in the manufacture of these goods enables them to produce an article of superior quality and finish. They are in use upon a large number of roads in the country and are highly approved.

Orders filled promptly, and at the lowest prices.

J. HOPKINSON SMITH,
Baltimore, Md.

☞ Please direct the name in full. 16tf

INTERESTING TO RAILROAD MEN.

A DIAGRAM has recently been published by G. H. HENSHAW, Civ. Engineer, of the practical organization of the New York and Erie Railroad. It shows in detail its entire *physique* in every department of the road. Such information in regard to one of the greatest railroads in the world must be deeply interesting to all connected with the management of such concerns. The impressions are on fine paper 31x45 inches. Price $1 for thick or map paper and $1.75 mounted on rollers. Those on map paper can be sent by mail.

Address JAMES W. HILTON,
Jersey City, N. J.

July 24th, 1856. 3m.

NEW YORK
IRON PAVEMENT
AND
STREET RAILWAY CO.

Office Nos. 8 and 10 Wall st.,
ROOM 16.

TO THE

MUNICIPAL AUTHORITIES OF THE SEVERAL CITIES OF THE UNITED STATES,

AND TO

RAILROAD COMPANIES

AND OTHERS INTERESTED.

THE above-named Company, established in the City of New York, offer you in

ROBINSON'S IRON PAVEMENT,

1st. The cheapest pavement ever used, *because most enduring at least cost of repair.*

2d. The safest pavement *for either man or beast to travel on.*

3d. The most economical pavement, *because the tear and wear of both beasts and vehicles, of pleasure and burthen, are less upon it than upon any other in use.*

4th. The most beautiful pavement to look upon, *because the most cleanly and variegated, and free from dust.*

5th. The easiest and least tiresome pavement to ride upon, *because most even of surface.*

6th. The least noisy pavement to use or reside near.

7th. The best pavement ever used, *everything desirable considered.*

This Company is enabled to furnish cities and others with an Iron Pavement for every use, at a reduced price. They will contract to lay it down upon any graded street, of superior strength, beauty, and perfection to that recently laid down in Boston, or that in Nassau street, fronting the Post Office, in this city, for

$5 to $6.50 PER SUPERFICIAL YARD,

in substitution for any existing pavement. This price is over $4 per square yard *less* than the first laid down in Boston cost that city; AND $1 *LESS* PER YARD THAN THAT RECENTLY LAID DOWN IN BOSTON COST; *AND IS* $1 *PER SQUARE YARD LESS THAN THE RUSS PAVEMENT HAS COST*, that has so beautified, yet rendered most dangerous and expensive to *man*, and *beast*, and *vehicle*, a large extent of Broadway, and some other streets of New York city.

This pavement is also the best and cheapest for all railroad tracks, where horses are employed, and for all *highway railroad crossings*, now usually made of plank, which are subject to constant disorder and repair.

Lighter and less expensive patterns (averaging from $1 TO $3 *PER YARD* are furnished for walks in public parks and grounds, also for side walks, private lanes, yards, foot-ways, cellars, and approaches to stables—each being most permanent, cleanly, and ornamental.

In every case *ENTIRE SATISFACTION WILL BE GUARANTIED* to all purchasers with whom contracts shall be made for laying down this pavement.

FOR A SMALL ANNUAL PER CENTAGE ON THE COST OF LAYING DOWN, CONTRACTS WILL ALSO BE MADE FOR KEEPING THIS PAVEMENT IN REPAIR FIVE, TEN, OR TWENTY YEARS, OR EVEN FOR A LONGER PERIOD.

The municipal authorities of cities, and directors of railroad companies, and all enterprizing citizens who wish to blend utility with embellishment of their private grounds, residences, &c., are specially invited to investigate this subject. The surpassing usefulness of the Iron Pavement has been too well established in the public streets of Boston as well as in a section of Nassau street, in this city, to require experiment or argument to uphold it.

All additional information that may be desired will be promptly communicated, and orders promptly executed, by letter or in person, to the undersigned, *GENERAL MANAGERS OF THE COMPANY'S BUSINESS, AT THEIR OFFICE IN THIS CITY, NOS.* 8 *AND* 10 *WALL STREET.*

We are also allowed to refer for general information on the subject, to the gentlemen whose names are subjoined, as Honorary and Consulting Directors, not interested as shareholders in the Company's business.

SMITH, ELEVETH & ROBINSON,

General Managers for the Iron Pavement and Street Railway Company

HONORARY AND CONSULTING DIRECTORS.

HON. B. B. FRENCH, } *Washington, D. C.*
CHARLES MONROE, ESQ. }
DAVID BURBANK, ESQ., *Baltimore, Md.*
JOHN J. SPEED, ESQ., *Detroit, Mich.*
HON. J. V. C. SMITH, *Mayor of Boston, Mass.*
L. L. SADLER, ESQ., *Treasurer of Union Telegraph Company, Boston, Mass.*
HON. H. F. FRENCH, *Associate Judge, Superior Court, Exeter, N. H.*
HON. JOHN M. WOOD, *(Member of Congress,) Portland, Me.*